INDUSTRY NEWS FOR CRAFT BREWERIES

12 | 2017

INSIDE



ProBrew's revolutionary ProCarb Plus is changing the game of clarifying and carbonating beer in some of today's most progressive craft breweries. Learn more.

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Natty Greene's Brewing Company & ProBrew work together to deliver great bottled beer to Greensboro, NC and the South. Cheers and Taste The South!

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The ProBrew Team is proud to share our passion for building innovative and technologically superior craft brewing equipment with all of our customers. Learn about how we can help you Brew Like A Pro!

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ProFill Can Filler & ProCarb Plus

ProBrew Solutions hit the Mark for Saucy Brew Works





ProFill Can 200, 20-Valve Filler with Monobloc 4-Head Seamer

ERIC ANDERSON AND BRENT ZIMMERMAN KNOW THEY'RE LUCKY: THEY GOT TO DESIGN THEIR IDEAL BREWERY FROM THE GROUND UP: SAUCY BREW WORKS IN CLEVELAND, OH.

Anderson is a researcher. He has a background in microbiology, and he completed the Master Brewing Program at the Siebel Institute. He applied his expertise to find the equipment best-suited to the brewery he and his partner wanted to create.

That ideal brewery included two ProBrew solutions: the ProCarb Plus and the ProFill 200 canning line. The ProCarb Plus is ProBrew's newly patented inline carbonator and nitrogenator integrated with an centrifugal separator (see article in this issue). The Profill 200 is a complete, turnkey canning line designed for the craft brewing industry.

"From a research standpoint, I picked ProBrew and their machines," he explains. "We were really impressed with the leading-edge technology and the build quality – and the testing numbers were right in line or even better than what we wanted." "We ordered the ProCarb Plus with all of the bells & whistles," Anderson reports. "And it performs like a champ."

With the ProCarb Plus in place, they're yielding over 88% from whirlpool to the end of the centrifuge. They've used it for carbonation with great success, and he says the nitrogenation has a sweet spot right around 45 ppm.

The fully-automated ProCarb Plus 30 uses inline, real-time turbidity sensors on both the infeed from the fermenter and the discharge to the brite to automatically control final turbidity and clarity. Plus, adding carbonation and/or nitrogen at this earlier stage in the filtration and cellaring process saves time and helps minimize the potential for any oxygen pickup throughout the rest of the cellaring process.

Saucy also ordered a complete ProFill Can 200 canning line. This included a stainless steel, automatic, high-level can depalletizer that feeds a dual can size (120z. & 160z.) ProBrew Inline Ionized Air can rinser and then delivers clean cans directly into the ProFill 200 monoblock, 20-valve can filler with 4-head seamer, which is the heart of the line. The balance of the line includes a Markam Imaje can coder, Heuft level detector and full can conveyor system with a manual pack-out table for manual PakTech handle application and case packing.

The ProFill Can 200 can filler is a fully automatic, rotary filler and seamer based on proven, European, mechanical, counter-pressure-gravity technology. It is one of the first of its kind in the U.S. since

ProBrew introduced it earlier this year.

Anderson looked at many different filling technologies and systems and chose the ProFill because, as he says, "It is simple, automatic, mechanical, and reliable, and it delivers accurate fill



PROBREW NEWS

PROBREW

Crafted with Passion

Cover Story



ProFill Can 200 @ Saucy Brew Works - Cleveland, OH



ProFill Can 200 Counter-Pressure-Gravity Filling Valves



4-Head Seamer with Undercover Gassing

control and minimal DO pickup, which I think is an ideal combination for Saucy and any craft breweries."

DO (dissolved oxygen) is a big deal for Saucy Brew Works and for the craft beer industry. As everyone knows, it greatly affects beer taste and package shelf life, which is do-or-die for craft brewers' brand identity and bottomline. Eric said he looked at several different can filling companies and technologies and visited several breweries during his research.

"There are a lot of breweries out there that are trying to run at 40 or more cans per minute and struggling to achieve package DO levels of under 100 ppb

(parts per billion). That is just not good enough for us. We are running comfortably at 150 cans per minute with very even fills, well within the TTB range, with an average package Dissolved Oxygen content between 40–45 ppb."

In fact, the ProFill can filling system uses the same basic technology and design that Anheuser-Busch and MillerCoors – whose breweries are mere hours away from Saucy Brew Works in Columbus, OH, and Trenton, OH – are running at speeds in excess of 2,000 cans per minute.

Things were a little tight on space in the brewery, even after building out an incredible space for the brewery and the tap-room/restaurant. Obviously, the ProFill 200 line is larger than most 30–40 cpm inline can lines, but the ProBrew team and Eric worked hard at compacting the line without giving up performance due to space constraints. When the ProFill 200 was finally installed and ready to go in late summer of this year, they ran their first run at about 150 cpm right out of the box.

In fact, Eric has cranked the line up to 200 cpm just to see how fast she would go, but then found that the guys packing cans struggled to keep up. They found a sweet-spot for them at around 120–150 cpm.

ProBrew has been good to work with for Anderson and Zimmerman. "They

delivered all of our equipment on-time, and they have the right guys who helped us set up the ProCarb Plus and the canning line. They were a big help in getting us up and running."

And that is how ProBrew earned the respect – and word-of-mouth promotion – of Saucy Brew Works. "They're just classic Wisconsin guys. I've been recommending them around town and to other people."





Craft Brewery Solutions is the brainchild of Darin Bertsch, a 17-year veteran of KHS, Inc. Darin worked in the KHS Filler and Packaging Line Service group for ten years before moving into the Turnkey Line / Project Management Group. While in the Service and Turnkey groups Darin quickly learned how

Craft Brewery Solutions Crafting a New Solution

suppliers' parts: KHS, Krones, ProBrew, etc. Their breweries could access the database and get the parts they needed from anywhere in the country.

"That concept and technology allowed the 'big guys' to save a lot of time, money and inventory space, and it worked really well," says Darin. "I created Craft JVNW brewhouse, or an Inline labeler. By being a member, each brewery will then gain access to all of the other parts in the CBS database. If a brewery needs a part that's not on their own shelf they can find it somewhere else – and usually get it shipped same-day. Once that part arrives and is a perfect fit for

it? Find it, Get it, Now!", is all about getting the right part to the right customer as quickly and cost effectively as possible to keep your brewery running.

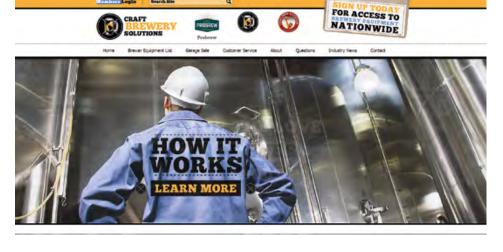
Visit **craftbrewerysolutions.com** to learn more about how to join and



some of the larger U.S. brewers used smart technology to manage their equipment spare parts inventory. Rarely did Anheuser-Busch or MillerCoors keep too many spare parts for a machine in each of their multiple breweries. They instead managed their inventory by using enterprise technology and a common database to keep track of all

Brewery Solutions to offer the same technology and benefits to the craft brewery industry."

Breweries can join Craft Brewery Solutions (CBS) for a minimal annual membership fee, and CBS will catalog their inventory of spare parts into the database, whether it is for a ProBrew ProCarb, a Wild Goose canning line, a



the problem, a new part will be automatically ordered from the OEM to re-stock the brewery from where it came. Not only is Craft Brewery Solutions a great equipment parts inventory tool, but it is also rapidly becoming a go-to resource for members to find other brewery related parts and services. Craft Brewery Solutions' motto "Need

what other great services and solutions they offer.



How to Make More Beer, More Quickly with the ProCarb Plus



ProCarb Plus Instantly & Fully-Dissolves CO_2 and N_2

Sometimes convenience, not necessity, is the mother of invention. In the case of the ProCarb Plus, a little convenience led to an exciting innovation that is helping brewers reclaim more beer, reduce dissolved oxygen levels, and cut days from their clearing and packaging cycle.

ProBrew Engineering Director Peter Schultz was just trying to save some hassle with the flow – controls between a centrifuge and a carbonator when he thought, "What if I just switch these around?"

From that simple question emerged the ProCarb Plus, the world's first integrated carbonation and centrifugal separator unit. The ProCarb Plus removes the need for traditional carbonation altogether by using the internal forces of the centrifuge to dissolve carbon dioxide or nitrogen gas into the liquid.

It sounds so simple, but the effects were so profound that ProBrew filed for a patent and were awarded Patent # 9,789,450 on October 17, 2017.

SAVE TIME, AVOID OXYGEN

The ProCarb Plus helps brewers against two of their greatest enemies: time and oxygen. Even by itself, the ProCarb in-line carbonation unit can significantly speed up your brewing cycle by giving you precise control over gas injection. However, by injecting the gas before sending it through the centrifuge, you can take advantage of 17 G-force acceleration to achieve higher-than-average levels of gas absorption and clearer beer.

This means dramatic time savings and a significant decrease in dissolved oxygen (DO) levels. "There's only so much space for dissolved gas in the liquid," Schultz explains. "When you add carbon dioxide or nitrogen gas ahead of time, there's far less room in the beer for oxygen."

The time savings means your brite tanks can be cleared for the next batch, and you don't need a huge cellar full of brite tanks just to carbonate your beer.

BETTER THAN GOOD ENOUGH

When Running Walker Brewing Co. first set up in Richmond, TX, they were using the oldest-school filtration method in the books: letting the solids just settle in the tank. The inefficiency and inconsistent clarity were an irksome problem for Director of Brewing Mike Mankoschewski. "It just wasn't good enough," he says with great understatement.

When they got a chance to see the ProCarb Plus in action, and learned they could increase their yields 5-10%, they placed an order right away and never looked back. It took them from not nearly good enough to much better than good enough.

"We've been running it since April 2016, and it's been working great for us," Mankowschewski reports. "I can highly recommend it."

A CRYSTAL CLEAR SOLUTION

Rob Whyte at Fort Myers Brewing Co., Fort Myers, FL, also jumped straight from settling to the ProCarb Plus and saw immediate benefits in efficiency and clarity.

"A centrifuge was my pie-in-the-sky dream," Whyte says, "but when we saw the ProCarb Plus at CBC (Craft Brewers Conference), we realized we could recover our costs in all the saved time."

The time savings have been substantial. "From crash cool to packaging used to take 5-6 days," Whyte explains. "Now we can go right from the crash cool to packaging." "It's a pretty awesome machine," he continues. "I can do in 3 hours what used to take 3 days."

Besides time savings, Fort Myers Brewing is recovering more beer and producing clearer, more consistent beers than before. "We recover at least 5% more beer because we can go down into the yeast. And our beers that are supposed to be crystal clear are coming out crystal clear. We can go right to packaging in about 30 minutes—perfectly clear, perfectly carbonated."



ProCarb Plus 30

AUTOMATION = EASY

The ProCarb Plus offers automation to improve speed, iterability and simplicity. Equipped with an Allen-Bradley PLC control system, operators can customize and save beer recipes, each with their own carbonation requirements.

"Once you get the hang of it, it's easy," Whyte says. "You get a sense of how it behaves for your different beers and you adjust accordingly."

Mankowschewski agrees: "Once you get it adjusted, it's all set. You have really good consistency and you can easily reproduce the same results every time."

To learn how you can get perfectly clear, perfectly carbonated beer in a fraction of the time, visit

www.probrew.com/carbonation/







The Patented ProCarb Plus is quickly changing the craft brewing industry

Proven Patented ProCarb Plus Performance

AT CBC PHILADELPHIA IN 2016, PROBREW INTRODUCED ITS NEWLY DEVELOPED, REVOLUTIONARY PROCARB PLUS INLINE CARBONATION & NITROGENATION SYSTEM INTEGRATED WITH A CENTRIFUGAL SEPARATOR. PROBREW ENGINEERS DEVELOPED THE TECHNOLOGY DURING THE WINTER & SPRING OF 2015/16.

The following is an excerpt from the Abstract Paper ProBrew presented at the 2016 American Society of Brewing Chemists and Master Brewers Association of the Americas (MBAA) jointly formed World Brewing Congress in Denver, CO. On October 17, 2017 U.S. Patent No. 9,789,450 was awarded for this innovative technology.

The ProCarb Plus introduces a novel method for the introduction of gas into beverages, thus streamlining the production of beer and cider, as well as other carbonated, nitrogenated, or gasified beverages. This new system and technology combines the clarification or solid removal and dissolution of gas into a single step of beverage production, resulting in a more efficient process and a higher quality product at a lower equipment and operational cost.

The gas, such as carbon dioxide or nitrogen, is injected at the centrifuge employed for clarification or solid removal of the beverage. The centrifuge utilizes a bowl rotating in a circular fashion at high speeds. The rapid spinning results in significant relative centrifugal force or g-force. With the g-forces and pressure in the bowl, the gas is instantly dissolved and homogenized in the beverage.

The advantages of this new system for gas dissolution in beverages are numerous: The centrifuge serves a dual function including both beverage clarification or solid removal and the dissolution of gas into the beverage, thereby eliminating the need for additional transfer of the beverage through a gasification system downstream of the centrifuge. In this method, the beverage may be packaged directly downstream of the ProCarb Plus.

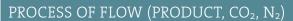
In addition, the introduction of gas before centrifugation results in less oxygen contamination in the beverage due to reduced oxygen solubility. Finally, this system is able to dissolve gases that have been traditionally difficult to dissolve such as nitrogen due to the centrifugal forces and pressure in the system.



Learn more about the benefits of the ProCarb Plus by contacting ProBrew

(a) co

contact@probrew.com 262.278.4945



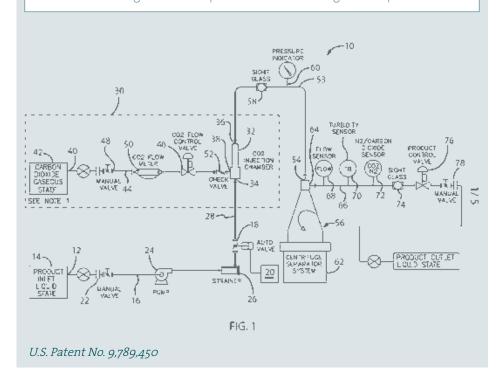
THE GAS, SUCH AS CARBON DIOXIDE OR NITROGEN IS INJECTED UPSTREAM OF A CENTRIFUGE EMPLOYED FOR CLARIFICATION OR SOLID REMOVAL OF THE BEVERAGE.

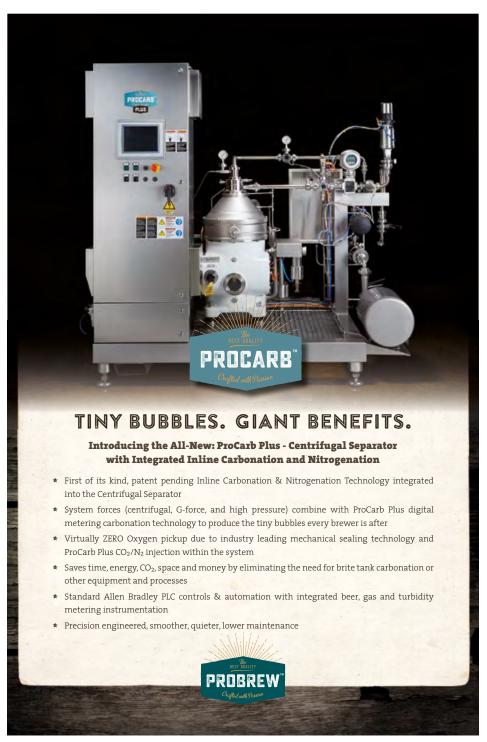
Provide a controlled volume of liquid containing solid particulates

Provide a controlled volume of gas to the gas assembly

Mix the controlled volume of liquid containing solid particulates with the controlled volume of gas to form a solution of liquid and gas

Pass the solution of liquid and gas through a centrifuge to concurrently extract the solid particulates from the solution and increase absorption of the gas into the liquid to form a clarified gasified liquid







Natty Greene's Brewing Company Started Bottling Faster with a Smaller Filling Machine



ProFill 50 (12/12/1) monobloc rotary rinser-filler-crowner

Natty Greene's brewery was built to handle about 6,000 bbl/yr, and it worked pretty well until demand reached 12,000-15,000 bbl/yr. Their new Natty Greene's Kitchen + Market, which recently opened in summer of 2017, was a big success, and it helped drive demand for more beer. They were moving beer through as fast as they could, but they could only go so fast – especially with their old bottling line, which was struggling with consistency and speed and had really poor yields, with losses up around 36%.

They started falling behind on orders; it was brutal. And then the filler broke down altogether. It had been built in 1986 and parts were hard to come by. As co-founder and brewer Kayne Fisher remembers, "I told my team it would be all right, but I went back to my office and thought, 'Oh man, we're screwed."

So he decided, as he puts it, to "throw a dart." They had started looking for a new brewhouse and packaging line partner, so Fisher had been in touch with Derek Deubel and the local ProBrew rep, Jim Smith. He called up Jim and asked if ProBrew, by chance, had a filler lying around.

"Jim said, 'Actually we do,' and I just threw it out there: 'Is there any way we could borrow it?' It was throwing a dart, a shot in the dark, but they said 'Absolutely." It blew Fisher away. "That kind of stuff just doesn't happen. They really bailed us out, and that's a great way to build a relationship in business."

ProBrew sent down a ProFill 50 bottle filler, installed it, and trained Natty Greene's staff. Though it is technically a slower machine than their old one, Fisher will tell you that because it's more automated and more efficient it runs much better at 40 bpm than the previous machine did at 200 bpm. "We went from an average of 36% loss to just 4% loss on bottling days," he explains.

The ProBrew team's responsiveness and trust, coupled with the machines' quality, sealed the deal for Fisher: "I thought, 'I'm going with ProBrew. I could really partner with these guys."

Natty Greene's knew they needed a new, modernized brewery. Now they are partnering with ProBrew to design and build a new brewhouse in preparation for a move into a larger, newer facility in the recently developed Revolution Mill in Greensboro, NC. They hope to open in spring/summer of 2018.

They'll be also adding a ProFill canning line to their current bottling line, and they're excited to be getting a ProCarb Plus In-line Carbonator and Centrifuge. For the new facility, Natty Greene's plans to purchase a complete ProBrew 20-BBL, fully automated brewhouse, a ProCellar Automated Cellar Control system with a full complement of ProBrew fermenters and brite tanks, plus the ProCarb Plus and ProFill 90S canning line.

"I talk about how ProBrew stepped up for us on a weekly basis," Fisher says. "They're based out of Milwaukee, so they're American, which is important to us. And I talk about their people, all the way down. They care, and they're passionate. I can always get someone on the phone, and they'll get things done. Outside of a great machine that's what you want."

And that kind of customer satisfaction is what we at ProBrew want, because our success depends on your success.





ProFill 50 filling bowl with electronic level control



Natty Green's Brewery - Greensboro, N.C.





An interview with ProBrew president Derek Deubel

Who are these ProBrew guys?

PROBREW IS STILL YOUNG ENOUGH THAT SOME FOLKS HAVEN'T HEARD OF US. CORRESPONDENT BRAD FRUHAUFF SAT DOWN WITH PROBREW PRESIDENT DEREK DEUBEL TO HELP FILL YOU IN.

BRAD FRUHAUFF: So, how did ProBrew get started, and what's it have to do with this other company, TechniBlend?

DEREK DEUBEL: TechniBlend has a long history of supplying beverage and brewery production and processing equipment to some of the biggest brands in the industry, like AB-InBev, MillerCoors, Sam Adams, Coca-Cola, Pepsi and so on. In many cases, we have provided leading-edge processing equipment such as carbonations systems, thermal processing and pasteurizing systems, CIP [Clean-in-Place] On-Demand™ technology and a wide range of blending, batching and brewing systems.

About three years ago we had a lot of craft beer, cider and beverage producers asking us for our inline carbonation systems and other solutions. We quickly realized that our 200 gallon-per-minute systems were too large and costly for craft, so we re-engineered them and came up with a complete brewing and packaging solution for craft brewers.

We launched ProBrew as a sister company to Techni-Blend, focusing on helping craft beer, cider and beverage producers find affordable, efficient equipment for every stage of their production and packaging.

BRAD FRUHAUFF: So what is ProBrew's approach to the craft sector?

DEREK DEUBEL: ProBrew is one of only a few truly turnkey craft brewery suppliers in the country. When we say in our ads that "We Do It All," we really mean it.



We have a great team of engineers who can design and build a complete brewery (well, except for the physical building, I guess).

It starts with our ProBrew brewhouse and ProCellar cellar tanks, then we can add in the ProCarb inline carbonation and a centrifuge, and then there are the filling and packaging lines: ProFill Keg, Can or Bottle. All of which can be automated for control and iterability. Plus, since we've been in this business for quite awhile (via TechniBlend), we have great relationships with some of the best suppliers of refrigeration, steam and other brewery utility equipment.

BRAD FRUHAUFF: You guys sort of popped up suddenly and started making a splash. What do you think accounts for that?

DEREK DEUBEL: To begin with, we bring all the knowledge and experience from supplying Techni-Blend's billion-dollar customers. We learned how to help those big guys improve their yield, enhance their

product quality, and streamline their production efficiency and sustainability. Now we can pass that on to our craft brewing and beverage customers.

But I think another big reason is that we listen to our customers and have a team of engineers, technicians and staff that really want to solve our customers' problems.

We train our customers, commission and service all our products, so we remain partners well after installation.

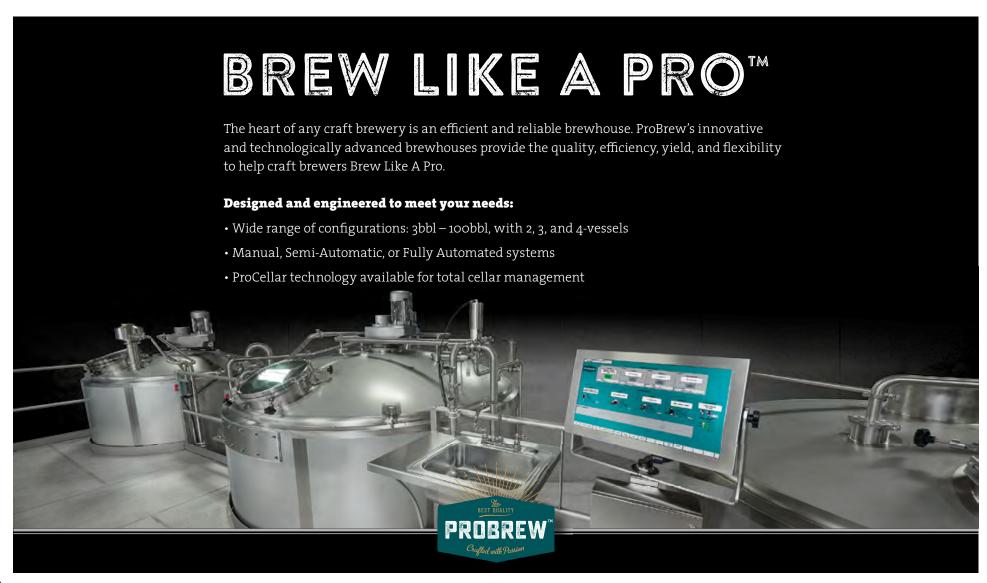
And while we have great respect for the ancient art of brewing, we aren't afraid to innovate, to ask different questions or try something new – especially if it makes things easier, quicker or more economical for our customers.

BRAD FRUHAUFF: I know you feature the customer in your What We Believe statement...

DEREK DEUBEL: Right. And you can sum up what we believe in just a couple parts of that statement: First and foremost, we believe in the creation of optimal customer satisfaction, and second, we believe our own success depends on our customers' success.

BRAD FRUHAUFF: What should readers know about what they're reading right now, ProBrew News?

DEREK DEUBEL: ProBrew News will, of course, show us off, but it isn't about selling in every story. Instead, we want to show you more detailed, case-by-case and maybe even technical illustrations of how we work to help your brewery succeed. I hope readers enjoy it.





Meet the ProBrew Team

The quality of a business depends on the quality of its team, and when you're an innovative, service-forward business like ProBrew, you better have a high-calibre team. In fact, we have some of the best, brightest, and most experienced beverage and brewing professionals in the industry. Here are a few of the key people you might work with at ProBrew:

JIM ZUPERKU

Manager Brewery & Brewhouse Engineering



Jim has a degree in Mechanical Engineering and a long career in the food and beverage processing, heat transfer technology and brewing industries. He got his start working for an engineering and manufacturing company in Wisconsin and joined ProBrew almost three years ago. Among his many roles at ProBrew, he has worked on several ProBrew brewhouse designs, and he has served as Project Engineer for several craft brewery and brewhouse projects for companies like Baja Brewmasters, Raised Grain and a long list of others.

Since Jim joined ProBrew, he's been up to his neck in brewhouse and brewery design projects ranging from smaller 3-bbl systems to 20-bbl systems and, more recently, a fully-automated, 50 bbl, 4-vessel system.

BRIAN LOUGHREY

Director of Business Development New Berlin, WI



Brian comes from a sales background with companies like Heineken and Goose Island, so he knows beer and the beer industry. He cut his teeth on the operations side while working for Country Malt, and now he's our go-to dry guy for his expertise on grain, malts, malting, etc.

He also knows or is known by everybody – so you may already know him, yourself!

donald@probrew.com



RYAN KURLFINK

Director of Business Development Greenville, SC



When Ryan was a student in Boulder, CO, he begged a local brewer to be taken on as an unpaid brewer's apprentice. That was the start of his beer journey. Ryan has become an internationally decorated master brewer with thousands of brews under his belt and World Beer Cup medals dating back to 1998.

Ryan has built a career around designing and commissioning brewery startups and expansions. He has a real knack for listening to brewers, understanding where you are in your lifecycle, and mapping out how to get you to where you want to be next.

Both Brian and Ryan are very active in the Master Brewers Association of the Americas (MBAA). Brian was recently appointed VP of the Milwaukee District chapter – congrats, Brian!

DONALD EDWARDS

Director of Business Development Salt Lake City, UT



Donald, a graduate of the University of Utah in Salt Lake City, UT, is also a U.S. Marines veteran. He saw considerable active duty and managed teams to get fuel depots and stores up and running in Iraq.

His passion is all things beer, brewing and breweries. He worked for 18 months at the Utah Brewer's Cooperative (Wasatch & Squatters) in Salt Lake City in production and can and bottle packaging. He rose to Packaging Supervisor and managed maintenance as well, so he has hands on knowledge of production, packaging and other equipment.

He is anxious and eager to help breweries in the West achieve production efficiency, improve quality and simplify operations by providing ProBrew equipment, solutions and services.

Quick and Accurate Carbonation for Under \$20,000

The Mighty ProCarb Mini

The ProCarb Mini System has been one of ProBrew's most successful products. First introduced at the 2016 CBC, ProBrew has had the pleasure of installing and starting up over 20 systems for brewers, cider makers and many other craft beverage producers who wanted quick, accurate beverage carbonation at the right price.

ProBrew's ProCarb series, which includes the ProCarb Mini, its big brother the ProCarb, and their bigger brother the ProCarb Plus Centrifuge & Inline Carbonator, features state-of-art technology that precisely ratios the product flow and gas flow together automatically, repeatably and reliably. All three systems use the latest PLC technology from Rockwell/Allen-Bradley to allow users to adjust ratios, control the process, and even save recipes for repeated use.

"The ProCarb Mini has saved us a ton of time and carbonation headaches,"



says Wesley Parker, Founder and Brewmaster at Bottle Logic in Anaheim, California. "It cost only \$20k and saves us days of carbonation, and gets it right every time. I would never run a brewery without one."

8th Wonder Brewery in Houston, Texas, initially ordered a ProCarb Mini, which ran at 20-gallons per minute. Aaron Corsi, Brewmaster & Co-founder, says, "It rocked, and it worked so well that we traded it in for the ProCarb Mini Max, which carbonates up to 80-gallons per minute. We are saving so much time, and we're getting carbonation levels perfect every time. We can't imagine living without it!"

ProBrew is proud to introduce its new ProCarb Mini Start-up & FAQ videos designed to make it easier, quicker and cheaper to fire up a brand-new ProCarb.





WHAT'S NEW?

ProBrew has just shipped two different HGB systems to some large craft breweries in the U.S.

FROM THE REVOLUTIONARY, PATENTED PROCARB PLUS INLINE CARBONATION & CENTRIFUGAL SEPARATION SYSTEM TO THE STATE-OF-THE-ART, HIGH-SPEED, 200 CPM PROFILL CANNING LINE RUNNING AT SAUCY BREW WORKS IN CLEVELAND, OH, PROBREW CONTINUES TO HELP DRIVE INNOVATION AND TECHNOLOGY IN THE CRAFT BREWING INDUSTRY SO YOU CAN BREW LIKE A PRO.

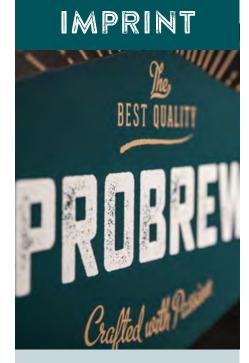
Here's a look at more new and cool systems and solutions that we are either still working on or have recently designed and delivered.

ProBrew has just shipped two different ProBrew HGB systems to some large craft breweries in the U.S. The ProBrew HGB (High Gravity Blender) is exactly that, plus more. The HGB system will deaerate and carbonate process water (diluent) and then blend it with high gravity beer very precisely (+/- 0.1% wt/wt) to a target

ABV and carbonation level, then re-chill the beer to $32^{\circ}F$ to supply it, inline and on-demand, to a down-stream filler – keg, bottle or can.

ProBrew is also proud to share the further design and development of our ProFill Keg semi-automatic keg washing and filling system. ProFill Keg systems include Allen- Bradley PLCs (automation control) and can be upgraded to include volumetric flow meters to measure and monitor cleaning flow, beer flow and volume – ensuring proper cleaning and delivering better filling yield and control. For even more cleaning precision, ProBrew also offers an optional, integrated conductivity meter to measure cleaning chemical concentration.

The ProFill Keg 11 (1-head wash, 1-head fill) & ProFill Keg 22 (2-head wash, 2-head fill) systems will be available for shipment in the next 30 days.



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