



CASE STUDY: 015

- ▼ CUSTOMER: ADIRONDACK BEVERAGE, INC.
- ▼ FULTON REP: TROJAN ENERGY SYSTEMS
- ▼ MARKET: FOOD PROCESSING
- ▼ APPLICATION: PACKAGING AND LABELING
- ▼ EQUIPMENT: VSRT-30

ADVANCED BOILER ACES BOTTLE LABELING AT ADIRONDACK

VSRT-30 INSTALLED ON STATE-OF-
ART MANUFACTURING LINE FOR
MAJOR BEVERAGE PRODUCER





VSRT-30 being powered on by employee at Adirondack Beverages.

Adirondack Beverages is headquartered in the small town of Scotia, NY, which is in the southern-most foothills of its namesake Adirondack Mountains.

Here they produce several varieties of beverages under their own trade name, with another half of their business contracted to manufacturers of third-party beverages bearing private labels. These labels are applied to beverage containers using a shrink sleeve applicator machine (also called labeler).

As the bottles go by on a conveyor, the labeler cuts a sleeve off of a roll and positions it over the container (picture a baggie that you open up over the container). The labeler then drops the sleeve over a bottle right before it goes through a steam tunnel, where the steam shrinks it and forms it to the bottle. Steam supplied to the steam tunnel is generated by a steam boiler.

Says Joe Mennella, Maintenance Manager at Adirondack: "The sleeve labelers are for our higher-end products, like energy and other specialty drinks, our more expensive products."

WHY STEAM?

Of all the methods used to attach labels to containers – hot air, radiant heat, and boiler steam – boiler steam conveys the most uniform heat – and thus even, from top-to-bottom shrinkage – of the labels that are applied, whether they be for plastic, glass or aluminum cans. It's best at attaching labels to multi-contoured containers.

But for the steam to work correctly, its temperature and pressure must be consistent, as both affect the shrinkage rates and resulting quality of the shrink sleeve materials (PVC, PETG, PLA) that are applied to containers.

As Joe says, "We're blowing this steam at the containers pretty much wide open. So if the boiler hiccups at all, you won't have enough steam pressure to shrink the labels."

That's why, in 2017, when Adirondack chose to replace their previous boiler, they purchased a Fulton VSRT-30.

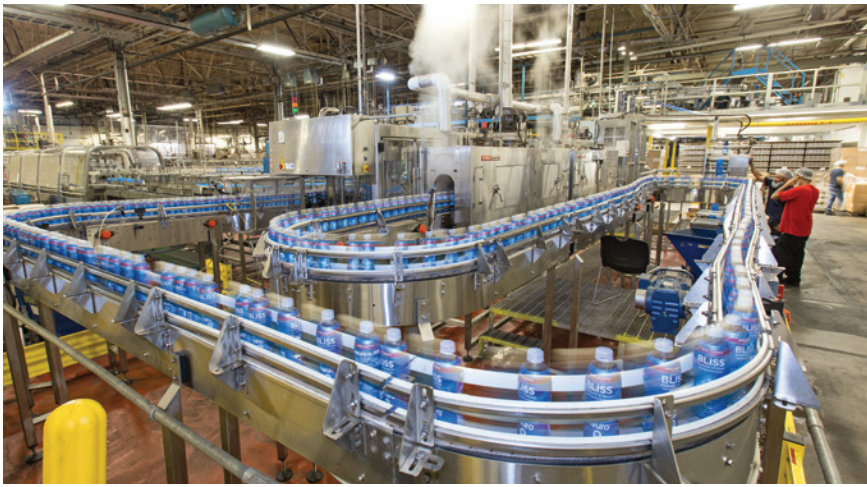
WHY FULTON'S VSRT?

The VSRT (Vertical Spiral Rib Tubeless) boiler is the world's first fully wetted, refractory-free vertical tubeless boiler that embodies the newest and most cutting-edge standard in vertical steam boiler technology.

It features a fully-modulating burner and up to a 6:1 turndown. Fully modulating burners are designed to safely operate throughout their full firing range from high fire to low fire.

In addition, the VSRT boasts an impressive 86% thermal efficiency, and 99.75% steam quality from its water-backed design with no refractory.

Its small vertical footprint also lends to the ease of fitting it into a relatively compact space, as well as the ease with which it can be installed.



▲ Puff of steam shown at front end of Tripack brand sleeve label machine connected to VSRT-30.

CASE IN POINT

At Adirondack, the VSRT replaced a previous boiler – purchased in 2012 for the same purpose – that had trouble keeping up. When it would cycle off, it would take too long to start. Once it got under 60 pounds of steam, its ability to shrink labels was diminished. Label quality suffered, which also created a lot of label waste.

Says Joe, "There was even a person who stood at the end of the heat tunnel who visually checked the quality of the labels as they went by. By the time we realized we were low on steam, he was already pulling bottles off the line."

"[The VSRT] drops down to a low fire, which keeps the boiler running so that it is not cycling off and on, which is working out really well."

The VSRT, on the other hand, maintains constant steam pressure. It is set to where it runs up to about 90 psi and then starts dropping back through its full modulation cycle.

Said Joe, "It drops down to a low fire, which keeps the boiler running so that it is not

▼ Open expanse of manufacturing floor at Adirondack showing multiple manufacturing lines.



cycling off and on, which is working out really well. The VSRT, with its modulation, is working much better than our last boiler."

"The VSRT gives a steady output of steam. It's high turndown ratio has made a big difference."

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FINAL THOUGHTS

Consistent and dependable steam is critical to manufacturing operations at Adirondack Beverages, and the VSRT boiler fulfills these requirements.

The VSRT, having a high turndown burner, is quick to respond to load changes, and minimizes on and off cycling, resulting in energy savings and reduced costs as well as less component wear.

A lot of the new boilers heat up really quickly, but they don't store a lot of steam, and the VSRT-30 does.

Most of these boilers, when they're in between fire, take at least five minutes to start up, and by that time you're out of steam.

Steam boilers need to have a high turndown so they're ready to pick up and take off without shutting off.

Says Joe, "The VSRT is always ready to go; whereas, the previous boiler would sometimes cycle off; and by the time it would go through its cycle, we'd already be out of steam."

"The VSRT is always ready to go . . . the steam is ready on demand . . ."

"The VSRT only takes 15 minutes to build up pressure, the steam is ready on demand, and the boiler hardly cycles on and off at all. It's been working great."



"It's also a slimmer, smaller package . . . I hated the old one. I love the new one."

Label quality has been better, and there's been much less down time on the machine, so output and quality is higher; there's less wasted product.

"It's also a slimmer, smaller package," added Joe. "I hated the older one. I love the new one."

FULTON STEAM SOLUTIONS, INC.

Fulton Steam Solutions is an American company headquartered in Pulaski, NY. Backed by over 65 years of research, innovation and experience, Fulton designs and manufactures heat transfer equipment for a wide range of commercial and industrial applications.

RELEVANT LINKS:

Adirondack Beverages, Inc.
www.adirondackbeverages.com

Trojan Energy Systems
www.trojanenergy.com

Fulton products for food processing:
www.fulton.com/food

Find your local sales representative online at:

www.fulton.com/sales



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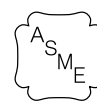


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CS-015_ADIRONDAK_2018-1113