



DISCOVER MORE ABOUT **FUEL SAVINGS**

2ND EDITION, DECEMBER 2018

SEMINAR REVIEW
HOTSPOT 2018

KILN ENERGY AND FUEL SAVINGS
USING SELF-RECUPERATIVE BURNERS





Editorial

DANIEL LLAGUNO, CEO

There's no doubt that 2018 has been challenging, but at the same time it's turned out to be very rewarding as well. Following our company ethos, with sustainable growth as the main goal, this past year has proved to be no exception.

We successfully designed, manufactured and commissioned furnaces and kilns for a whole host of applications – in various industries across a number of countries – going from super-high-temperature kilns for technical ceramics in California, to galvanizing lines and forge and heat treating furnaces for steel, alloys, and aluminum in the Americas, through to sanitaryware and refractory kilns worldwide.

I'm pleased to report that our plant in Monterrey has been at full capacity for pretty much the whole year. We have invested not only in the facilities themselves, but also in our long-term plan to develop and nurture new talent across the Nutec Bickley organization, in order to put the company in a strong position to cope with future growth.

We have also worked hard, via several important initiatives, to keep improving as a company, and to continue adding value for all our customers. Plans for next year are being finalized, and we can certainly say, as a team, that we're committed as ever to pursuing our goals of excellence, enhanced standards, and close attention to customer service as we move through 2019.

I want to take this opportunity to thank our customers, suppliers, and friends for their continued support, and to send my sincerest wishes to everyone for a happy holiday season, and a truly great 2019 filled with family, work, fun and good health.

FURNACE / KILN ENERGY AND FUEL SAVINGS USING SELF-RECUPERATIVE BURNERS

BY ALBERTO CANTÚ



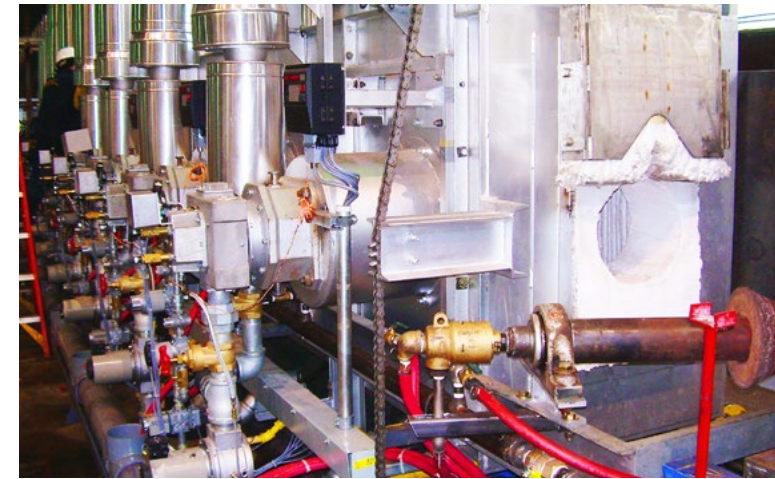
In this interview with our VP, Combustion, Control & Services, Alberto Cantú, he discusses with us the operation and advantages of one of the energy recovery systems (ERS) offered by Nutec Bickley: self-recuperative burners. Discover more about this solution and how it helps you maximize your fuel inputs.

WHY HAVE AN ENERGY RECOVERY SYSTEM IN YOUR FURNACE / KILN?

In generating process heat via the use of burners, kilns lose a proportion of energy as waste heat through the flue. This heat could be used in other processes if you had the appropriate technology that could capture it and re-direct it effectively.

WHAT DO SELF-RECUPERATIVE BURNERS DO?

These burners make use of the energy normally expelled to atmosphere via the flue and they reuse it to preheat combustion air.



The air used in this process is normally at around ambient temperature (30°C/85°F) and needs to be heated to temperatures up to 1700°C (3090°F), depending on the application. With the recuperated energy we are able to preheat the air to temperatures up to 400°C to 500°C (750°F to 930°F), delivering up to 45% in fuel savings.

WHAT ARE THE APPLICATIONS FOR OUR SELF-RECUPERATIVE BURNERS?

- They are suitable for both ceramics and metals treatment.
- They can be employed in any



kiln that operates at temperatures in excess of 800°C (1470°F).

- Self-recuperative burners are used in:
 - Shuttle kilns
 - Roller hearth kilns
 - Car bottom furnaces
 - Equipment with pulse firing burner control

WHAT ADVANTAGES DO WE SEE WITH THIS TYPE OF BURNER?

- Preheated air can be produced in the same burner.
- Eliminates the need for a central heat recuperator in the flue.
- Fuel savings of up to 45%.
- Lower costs and need for maintenance.
- Available for different fuel types.
- High-velocity gas flow improves temperature uniformity, product quality and the efficiency of the system.

At Nutec Bickley we are experts in the development of technologies aimed at improving operational performance in all sorts of industries. We offer a wide range of systems and kilns, customized according to our clients' needs.

Contact our advice team and tell us about your next project, so that working together we can find the best way to optimize your operation using our energy recovery solutions.



IN PLAY A QUICK ROUND-UP OF OUR LATEST PROJECTS



CAR BOTTOM FURNACE

- Location: Pennsylvania, USA
- Currently the equipment is being installed in the customer's facilities
- Normal temperature: 550°F (288°C)
- Maximum operating temperature: 800°F (427°C)
- Process: Die preheating for aluminum forging

2 DROP BOTTOM FURNACES

- Location: California, USA
- Currently the equipment is being started up
- Maximum operating temperature: 1,000°F – 1,050°F (538°C – 566°C)
- Industry or segment: Aluminum heat treatment
- Process: Solution heat treatment of aluminum wheels



BOX OVEN

- Location: Québec, Canada
- Furnace has already started production, just a few weeks ago
- Normal temperature: 150°F – 500°F (66°C – 260°C)
- Maximum operating temperature: 550°F (288°C)
- Nominal capacity per burner: 2,500,000 BTU/hr (733kW)
- Industry or segment: Aluminum heat treating
- Process: Heat treatment of aluminum wire coils





MR. ARTURO ARECHAULETA, NUTEC BICKLEY VP METALS WITH HEIDI BROCK (PRESIDENT OF THE ALUMINUM ASSOCIATION) AND BOARD MEMBERS

NUTEC BICKLEY HAS BEEN OFFICIALLY APPROVED AS AN **ASSOCIATE MEMBER OF THE ALUMINUM ASSOCIATION.**

The Aluminum Association represents U.S. and foreign-based companies and their suppliers throughout the value chain, from primary production to value added products, through to recycling. The association is the industry’s leading voice, providing global standards, business intelligence, sustainability research and industry expertise to member companies, policymakers and the general public. In the U.S. alone, it is estimated that the aluminum industry creates \$186 billion in economic activity.

In recent years, state-of-the-art furnaces for the heat treatment of aluminum have become one of the most successful product lines in the Nutec Bickley portfolio. Becoming part of this leading association gives us the opportunity to be closer to both our existing and potential customers.

Not only is aluminum production, and those who undertake it, of prime importance to Nutec Bickley’s steady advancement, but the modern manufacturing methods employed in the industry play a role in energy conservation.

A group of aluminum Association members visited Capitol Hill in DC with the intention of emphasizing the importance of eliminating the current 10% tax on Aluminum imports to USA from Mexico and Canada.



ATTENDANCE RECORD BROKEN

Over three days from 3-5 October 2018 the 32nd Hotspot NB Combustion Seminar took place at the Hotel Camino Real in San Pedro, Nuevo León, Mexico. On this occasion we recorded the largest number of delegates ever, with 120 attendees interested in expanding their knowledge of furnaces, combustion systems and insulation.

Aside from featuring numerous delegates from several renowned producers of steel and other metals, for a large number of companies attending our event has become a vital part of their training processes, meaning that year after year we have been able to count on their participation.

Our seminar is now considered by many companies as a necessary course within their training schedule, supplementing their own internal development program for new employees, thereby recognizing us as leaders in the industry.

In this mixed theory/practice event, all those present picked up ideas directly applicable to their day-to-day operation and specific application.

We hope next year to once again welcome the attendance of an equally enthusiastic, questioning audience, thirsty for knowledge.

See you in 2019!





HAVE A
Merry Christmas
FROM THE NUTEC BICKLEY TEAM



WE HOPE YOU'LL JOIN US AT ONE OF THESE EVENTS



Cast Expo
27-30 April
Georgia



Ceramics Expo
30 April - 1 May
Cleveland



Forge Fair
21-23 May
Ohio



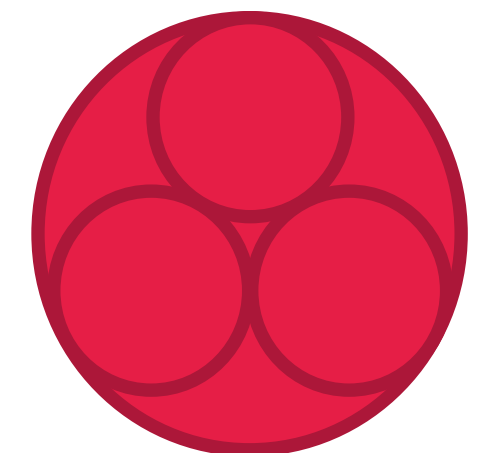
GIFA / Thermprocess
25-29 June
Düsseldorf, Germany

ENGINEER'S CHALLENGE

WHAT IS THE DIAMETER OF THE CIRCLE?

INSTRUCTIONS:

Define the diameter of the 3 inner circles as a function of the diameter of the big circle.
(Note: the 3 small circles are equal in diameter)



Get yourself featured in our e-bulletin! Answer this problem correctly and send your solution to bulletin@nutec.com. We'll publish the solution and a list of winners in our next edition.



DO YOU NEED A QUOTE FOR ANY OF THESE SOLUTIONS?

Contact us and describe your project so that we can respond effectively. bulletin@nutec.com
We look forward to hearing from you.