



## 2013 Baking Hall of Fame



**T**orahiko Hayashi has influenced the baking industry through the automated creation of artisan products, the global spreading of food cultures and the founding of Rheon Automatic Machinery Ltd.

"The products that come off his machines can be found worldwide," said Rich Wall, who worked as a regional sales manager for Rheon USA from 2000 to 2007.

Mr. Hayashi's lifelong inventiveness and persistence earned him a spot in the American Society of Baking's 2013 Hall of Fame class. He founded Rheon Automatic Machinery Ltd. in Japan in 1963. The company's name is derived from the concept of rheology, or the study of the flow and deformation of matter. Rheological engineering is the shaping of food by controlling the viscosity and elasticity to maintain the texture of food while locking in the taste and aroma inside.

Rheological engineering led to the mass production of baked foods unique to specific cultures around the world.

"With his awareness of food cultures across the globe, Mr. Hayashi and Rheon are constantly emphasizing automation in food processing that must preserve these

cultures by improving labor conditions, the quality of products and the making of unique and cultural products affordable and available to people around the world," said Jon Thompson, national sales director for Rheon USA, Irvine, Calif., in his March 4 acceptance speech for Mr. Hayashi at the A.S.B.'s BakingTech 2013 in Chicago.

Based in Japan, Mr. Hayashi developed the first encrusting machine in 1961, but it took 10 years of trial and error. Mr. Wall said Mr. Hayashi wanted to automatically create manju, which is a Japanese cake with a bean-paste filling. Thousands of crippled manju came out with various imperfections before the encrusting machine was a success, he said. A "manju monument" still exists at the Rheon headquarters in Japan, Mr. Wall said.

In the machine, the action of the rotating discs resembles that of a human palm. The outer circumference of each disc generates the calculated tangential stress and normal stress, draws the dough into the cutting section and automatically encrusts the filling. The dough then is molded into a circular shape.

Thanks to the encrusting machine, Mr. Hayashi and

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Rheon began to change the baking industry worldwide. Rheon in Japan opened sales branches in Sapporo, Sendai, Nagoya, Okayama, Hiroshima and Fukuoka in 1968.

Rheon USA was founded in Irvine, Calif., in 1974. Mr. Wall remembered attending the 1977 International Baking Industry Exposition in Atlantic City, N.J.

"When I saw their machinery, it just blew me away," Mr. Wall said. "There was nothing like it."

At that time dough generally was made in batches of about 20 lbs each, he said, but a Rheon automated MM line made about 1,100 lbs of Danish and puff pastry dough per hour. The batch process, in contrast, might make 300 lbs per hour.

"You really would have needed four to five people to keep up with that MM line," said Mr. Wall, now general sales manager for Sottoriva America, Inc., Charlotte, N.C. "It was ahead of its time."

Rheon opened Orange Bakery, Inc., in Irvine in the late 1970s. The business included the MM line, named after the late American movie star Marilyn Monroe. The line was used to create and popularize such items as filled sandwich croissants and pastry goods.

In the 1970s, Rheon revolutionized the process of making a variety of bread and pastries from around the world. Through a sheeted technology Rheon introduced the stress-free system for artisan bread in 1997 at the I.B.I.E. in Las Vegas.

The stress-free system differs from the conventional forming of bread dough. The conventional forming divides a large dough block into small portions to form round, bar



or even flat shapes. The process applies stress to the dough during the dividing process, which damages the gel and cell structures. Dough may not be able to produce air bubbles, which may result in poor quality bread. To avoid the problem, chemical additives may be used to strengthen the dough structure.

Rheon eliminated this process by forming continuous thin dough sheets prior to the dividing process. While forming the dough into thin layers, the dough binding is strengthened to create any form of bread product.

Rheon Automatic Machinery, Ltd., based in Utsunomiya City, Japan, is celebrating its 50th anniversary this year. Rheon USA provides service to North America, Central America and South America.

Rheon Automatic Machinery GmbH, based in Düsseldorf, Germany, provides service to Europe, Africa and the Middle East. Rheon Automatic Machinery Asia Pacific Co. Ltd., based in Taipei, serves Taiwan.

Rheon has been named in 2,765 patents and has shipped equipment to more than 112 countries. The patents cover dough encrusting machines, dough laminating machines and artisan bread machines.

Health reasons prevented Mr. Hayashi from making the trip to Chicago. Mr. Thompson and Yasunori Tashiro, president and chief executive officer of Rheon Automatic Machinery, Ltd., accepted the award on his behalf.

"We will continue to produce cutting-edge equipment for the global community in order to protect and grow cultures as they were created," Mr. Thompson said. MBN

