



ADVANTAGE

BAKERY TECHNOLOGY UPDATE

SPRING 1997

New Dough Feed System Significantly Improves Sheeting Line Performance

What if you could reduce labor, boost worker safety and increase product yield on your sheeting line all at once? Well, you can (and for a comparatively low cost) with

Moline Machinery's NEW Automatic Dough Feed System.

Moline's innovation eliminates

many of the problems of manual and semi-automatic extruder loading, at a fraction of what "stress less" and con-

stant weight control systems cost. Yet, the performance of this system is similar to those more expensive methods.

A major downside to manual feed extruders is that hopper dough levels can vary widely, causing the sheeting line to be alternately "flooded and starved" with

dough. This is especially true for elastic donut doughs and stiff pizza or tortilla formulations. Figure A depicts the results: high trim conditions and lower product yields.

If dough hopper levels are maintained within a narrow range, as illustrated in Figure B and related Graph A, product yields will be higher at the make-up belt.

Moline's new system is designed to do just that. By keeping dough in the A to B range as shown, optimal and

consistent yield is achieved.

The technology consists of a rotary star wheel chucker and a level sensor in the extruder hopper (see Figure C). A signal from the sensor energizes the star wheel drive. This device cuts a pre-

portioned piece of dough and transfers

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- **Electric Fryers** New technology for industrial producers
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FIGURE A

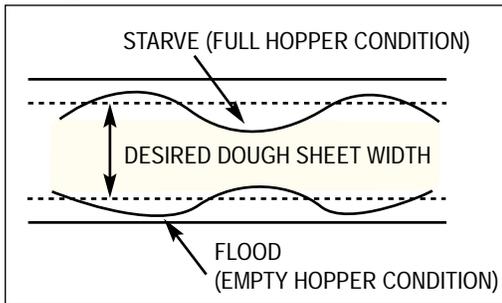
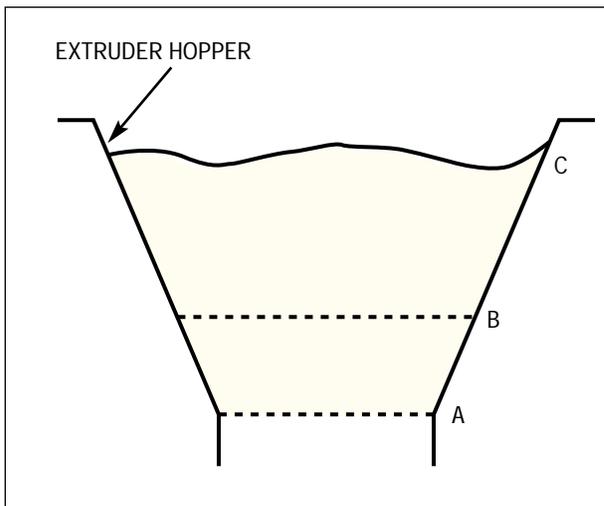
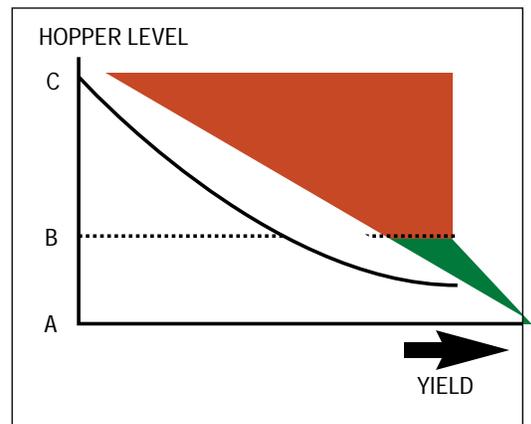


FIGURE B



GRAPH A



it to the extrusion hopper. Minimal dough in the hopper reduces friction on the dough, permitting the extrusion rollers to create a uniform dough sheet with minimal shear stress.

The new system also addresses safety issues. Loading extruder hoppers manually requires heavy physical labor. The worker must either cut dough pieces

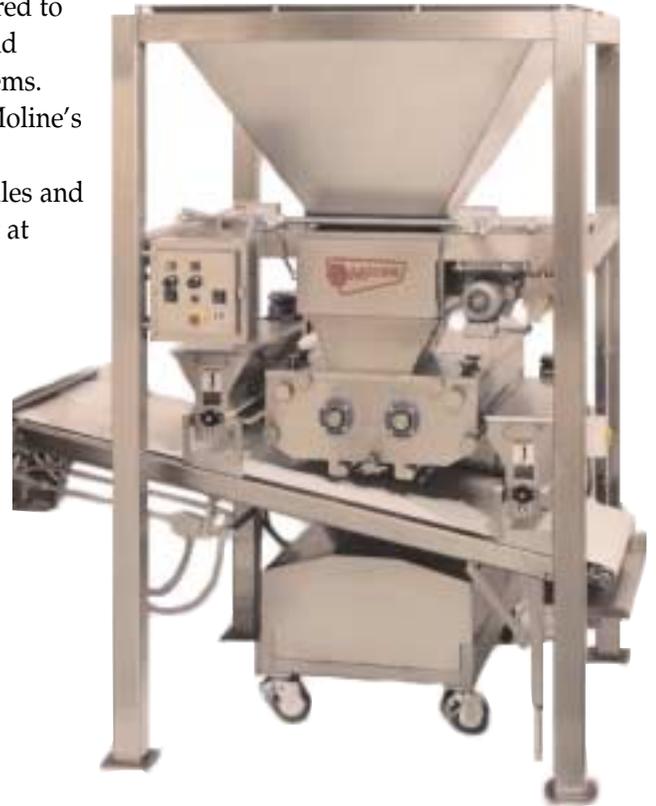
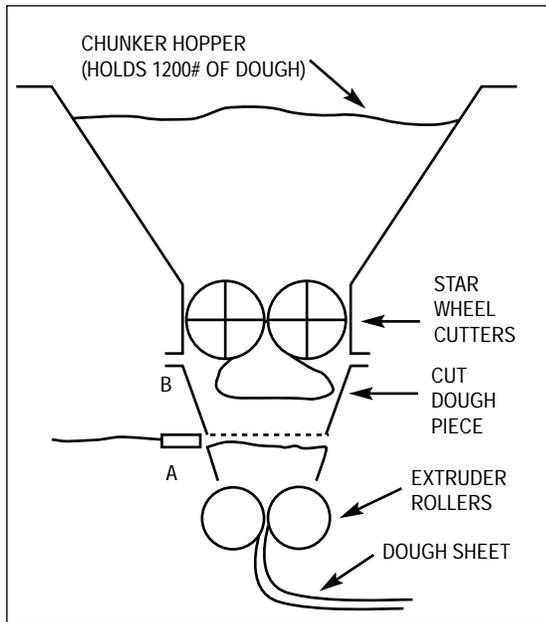
and hand load them into the hoppers, or frequently operate a hoist. In either case, the repetitive bending and lifting puts employees at risk of back injuries and lost time. With Moline's system, you can protect your workers and your production schedule!

The beauty of the Automatic Dough Feed System is that it can be used with existing extruders

and new lines alike. And again, it's an economical choice compared to higher priced "stress less" and constant weight control systems.

For more information on Moline's new Automatic Dough Feed System, please contact our sales and customer service department at (800) 767-5734.

FIGURE C



Moline to Attend Major Shows in '97 & '98

The International Baking Industry Exposition (IBIE) is being held once again in Las Vegas this coming September. It is one of the most important events in the baking world, and Moline will be there.

Themed "World's Baking Industry Showplace", this once-every-four-years trade show promises to attract approximately 30,000 domestic and international baking professionals. Moline's booth will feature



a complete operating donut system, from depositor to icer, and much more.

Moline will also exhibit at the IBA Show in Dusseldorf, Germany. This outstanding show is set to run May 8-14, 1998. Last held in 1995, when Moline was a first-time exhibitor, IBA drew 95,000 people! If you plan to attend either show (or both), please visit Moline's booth - we look forward to meeting with you.



Electric Fryer Technology Advances for Donut Systems

Electric heated fryers for “American style” donuts have been accepted for years in supermarkets and retail bakeries, but have never been seriously considered for industrial applications.

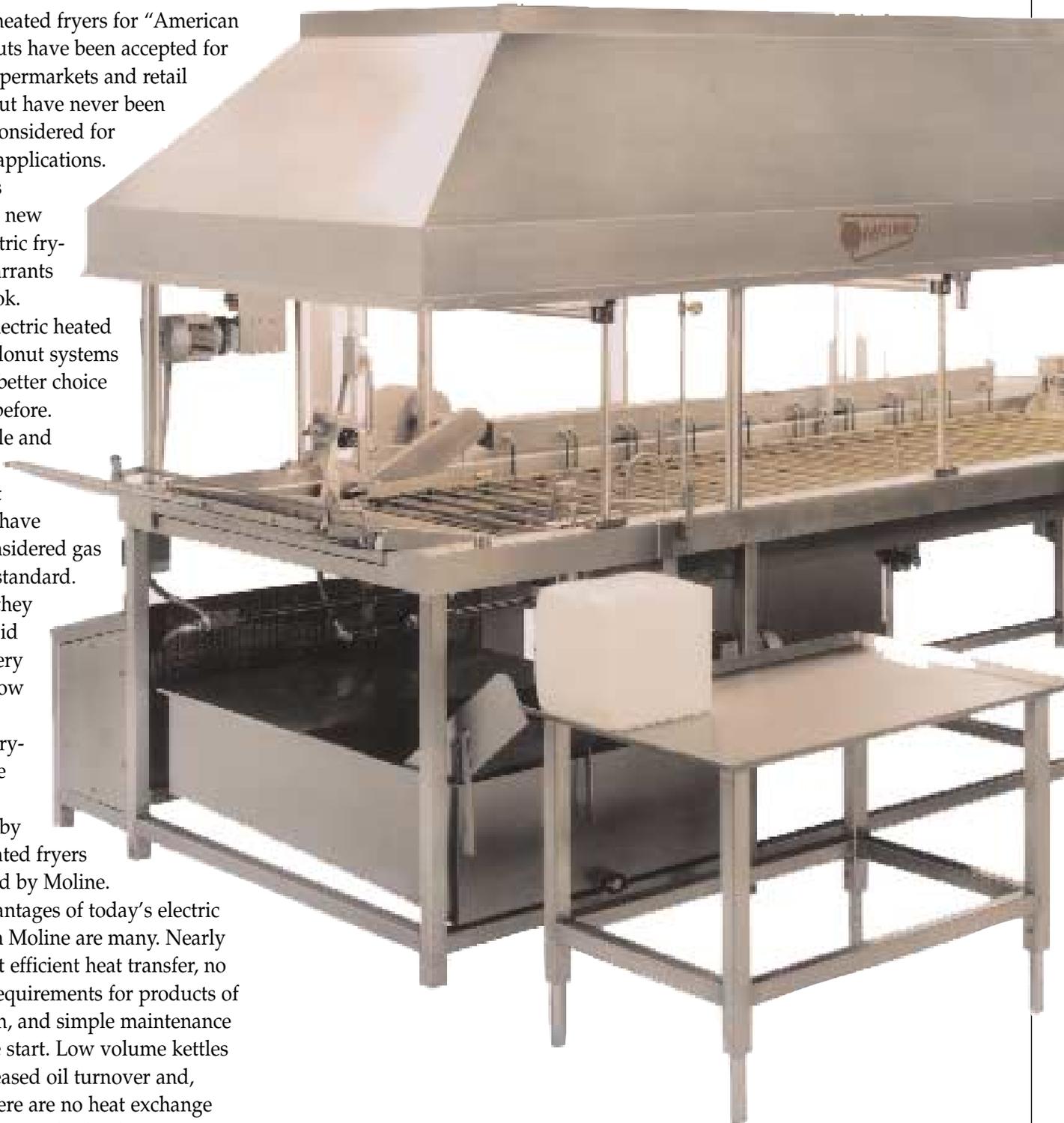
Moline has designed a new line of electric fryers that warrants another look.

Moline’s electric heated fryers for donut systems are now a better choice than ever before.

Wholesale and high volume donut producers have always considered gas fryers the standard.

Although they supply rapid heat recovery rates and low operating costs, gas fryers do have limitations addressed by electric heated fryers now offered by Moline.

The advantages of today’s electric fryers from Moline are many. Nearly 100 percent efficient heat transfer, no emission requirements for products of combustion, and simple maintenance are just the start. Low volume kettles mean increased oil turnover and, because there are no heat exchange burner tubes, sanitation is very easy. Whereas gas systems approach 100



decibels at high fire, electric systems produce no noise – not to mention the fact that electric is *required* in some international markets.

What closed the gap between popu-

lar gas fryers and the new electric models? Moline electric fryers feature modulating digital temperature controllers, which eliminate mechanical contactors and relays to switch power to the elements. Reduced power levels sent by the new controllers to the heating elements permits

tight and rapid control of oil temperature and prolonged heater element life. In addition, new burner elements are very reliable yet easily replaced when necessary.

Moline electric fryers for industrial donut systems are available in capacities from 400 dozen per hour to 18,000 pieces per hour. Moline systems carry a UL Listing for domestic markets and are CE Certified for Europe.

If you're ready to consider the advantages of electric, please contact our sales and customer service department at (800) 767-5734. A Moline representative would be happy to tell you more.



Moline Announces Plant Expansion

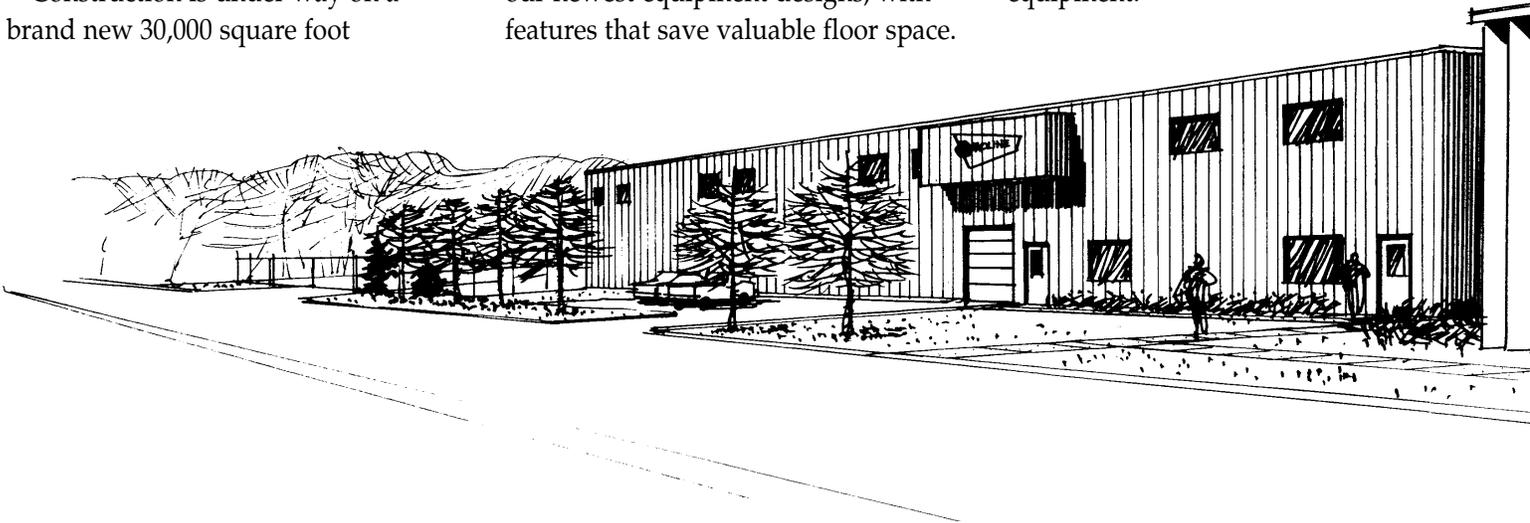
Moline's plant is growing, with a new building scheduled to be completed in the fall. The expansion, following on the heels of last year's office building purchase, promises to speed production capabilities and offer new benefits to our customers.

Construction is under way on a brand new 30,000 square foot

assembly facility. The building will be located along side Moline's manufacturing and office complex in Duluth, Minnesota.

The expansion will add much-needed space. Large assembly bays with high ceilings are planned to accommodate our newest equipment designs, with features that save valuable floor space.

Moline's test bakery will also be expanded to 10,000 square feet with sheeting and frying equipment added. Our bakery will be certified for test market production, providing an attractive option to Moline customers evaluating new products on Moline equipment.



24 hour Technical Service Hotline

Moline customers can reach a Moline service engineer 24 hours a day by dialing

(218) 725-2090

Introducing New Service Staff Member



Colleen Rourke

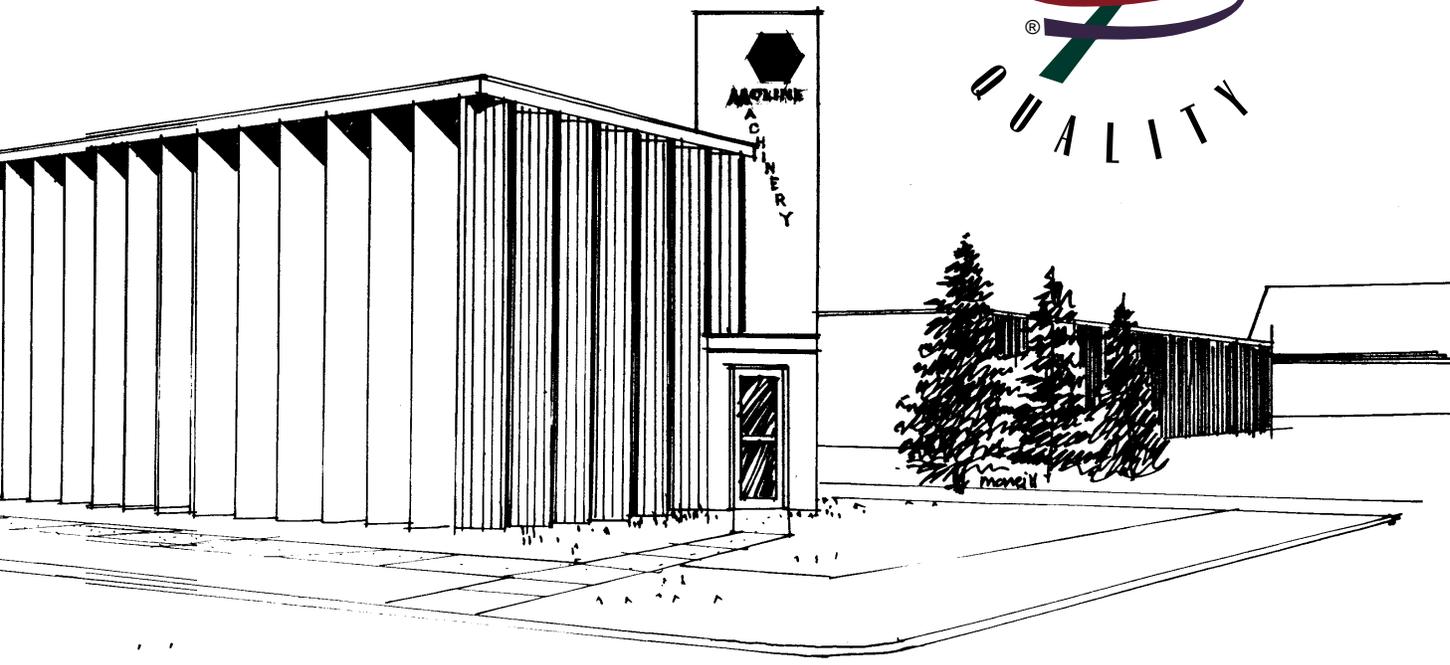
A new member has joined Moline's knowledgeable customer service team. Colleen Rourke recently began working with Moline's industrial and commercial customers. She assists with customer inquiries, equipment quotations, sales and parts orders and equipment troubleshooting.

Rourke's background includes degrees from the University of Minnesota-Duluth in business administration/marketing and international

studies, and previous job experience in human services.

Colleen's upbeat attitude and demonstrated ability to work well with people make her a valuable addition to Moline's dedicated Customer Service Department.

"Moline Machinery is aggressively building on a 50 year tradition of excellent products and service. This expansion is just another step on the path of growth we are determined to follow," said company president Gary Moline.



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