

READING PRETZEL & SNACK

Flexible Baked Snack Line

Typical Production Yields

The following matrix shows some typical production capabilities of a Flexible Baked Snack Line. These estimates are all on one representative product as defined below.



Weight / 100 pieces = 143g
 Pieces / Die (15") = 12
 Typical Bake Time = 3min.

Extruder Die Heads	3	4	5
Belt Width	1.2m [48"]	1.6m [60"]	2.0m [75"]
Overall Line Width	3.8m [12.6']	4.2m [13.7']	4.6m [15.1']
Line Length with Oven Length = 12m	34.2m [112.3']	35.5m [116.5']	35.5m [116.5']
Yield	308kg/h [680lb/h]	408kg/h [900lb/h]	508kg/h [1120lb/h]
Line Length with Oven Length = 24m	46.4m [152.3']	47.7m [156.5']	47.7m [156.5']
Yield	616kg/h [1360lb/h]	816kg/h [1800lb/h]	1016kg/h [2240lb/h]
Line Length with Oven Length = 120m	58.6m [192.3']	59.8m [196.5']	59.8m [196.5']
Yield	924kg/h [2040lb/h]	1224kg/h [2700lb/h]	1524kg/h [3360lb/h]



Product development & equipment demonstration all in the same facility.

An Industry Resource:

The RBS Science & Innovation Center is a professionally staffed Research & Development facility for equipment demonstrations, machinery testing and confidential product development

The Technical Center is used differently by many customers depending on the nature of their needs:

- Product Demonstrations:** For customers who already have a product idea or samples ready for commercial development, the Innovation Center can offer a demonstration of existing processes using RBS test equipment. For optimum evaluation, demonstrations can be done using customer ingredients if available.
- Product Development:** For customers whose ideas are still "concepts" may work with the staff at the Innovation Center to develop a program of product development including samples, project costs and time-line schedules.
- Product Development & Market Samples:** For customers who wish to develop a new product from concept through test market samples, the Center can offer a complete program including project scope, costs, samples and production schedules.



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READING PRETZEL & SNACK

Flexible Baked Snacks



Production Flexibility To Serve Changing Markets

The growth of the baked snack food industry has been driven by a wide range of new products and innovative producers who keep pace with changing consumer demands. These producers face a dilemma: traditional approaches to snack production often provide high volumes *at the expense of product flexibility*. Capital investment can be prohibitive and line extensions are expensive and problematic.

For years, Reading Bakery Systems has been developing a different approach by providing production lines that offer flexibility without sacrificing efficiency or reliability. Our model LP (Low Pressure) Extruders deliver a wide variety of product shapes to the SPECTRUM OVEN®. The patented Smart zone at the beginning of the oven multiplies the product development flexibility through state-of-the-art heat transfer modulation. At the opposite end, RBS successfully pioneered two-pass baking to efficiently manage the distinct requirements of baking versus drying.

In addition, our T.L. Green Biscuit & Cracker sheeted snack and chip equipment – including the Rotary Molder for sweet biscuit production - can be added to the line for a whole new range of healthy, sheeted, baked snacks.

The RBS Flexible Snack ovens may be expanded at a later date simply by adding oven modules; there is no need to reposition handling, forming or distribution equipment.

In most cases, production may be increased with the packaging equipment maintaining its original location.

Some currently produced product ideas are shown on this page but new ones may be developed in privacy and under the supervision of skilled R&D staff at our RBS Science & Innovation Center.

The Reading Bakery Systems Flexible Snack System can help innovative producers bring their new ideas to market – efficiently and profitably.



Market Paced Production Flexibility

Production Possibilities



Mini-Window Panes



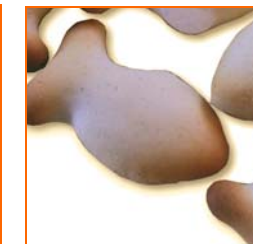
Square Crackers



Mini Bagels



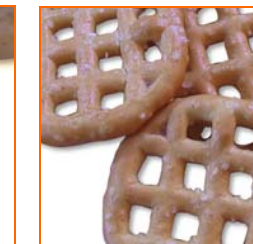
Co-Extruded Sticks



Shaped Crackers



Split Nuggets



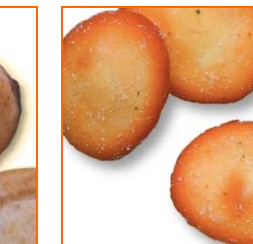
Grids



Squiggle Sticks



Puffed Nuggets



Mini Pitas



Swirled Nuggets

Product Variation And A Platform For Development

The processes involved in Flexible Snack Manufacturing have been proven extensively by Reading Bakery Systems at many installations worldwide.

Mixing & Dough Handling: Batch mixing ① and manual dough feeding is the simplest way to start a Flexible Snack line with a minimal capital investment. Over time, and as production demands increase, labor savings and production efficiencies can be increased with highly accurate ExACT Continuous Mixing Systems, and automated dough handling solutions.

Dough Forming & Processing: The Reading LP Extruder ② creates uniform shapes from interchangeable dies. Individual products are cut onto a Proofing Conveyor ③ or stick products are continuously extruded and cut by the Guillotine Cutter. ④ Prior to baking, products may be dipped through a solution or hot water bath in the Pretzel Cooker ⑤ to alter the exterior shell color and texture. The product can be passed underneath the Omega Dispenser ⑥ for any pre-bake toppings such as salt or seeds.

Baking & Drying: The SPECTRUM OVEN® ⑦ is a flexible baking platform available in radiant or convection baking modules. The SMART module ⑧ provides adjustable amounts of both radiant and convective heat transfer within the same zone for true baking flexibility. The Drying Kiln ⑨ provides a controlled, low temperature convection atmosphere for even product moistures.

Product Distribution & Packaging: The product exits the Drying Kiln ready for packaging or any post-bake seasonings. It is discharged onto a Finished Product Conveyor ⑩ and sent through a distribution system depending on the format of the packaging machines. ⑪



The LP Extruder is a flexible platform for production or new snack development. Shapes may be tested on single die plates and modified to exact specifications before a complete set is ordered.

This is a typical 1.2 meter wide line with a single SPECTRUM OVEN® convection module over kiln.

This is a typical 2 meter wide line with two oven modules, SMART zone and convection module over kiln.

