



M & S AUTOMATED FEEDING SYSTEMS, INC.

SALES AND SERVICE ▯ VIBRATORY AND CENTRIFUGAL FEEDER BOWLS AND EQUIPMENT

We at **M & S Automated Feeding Systems, Inc.** would like to introduce you to one of our latest lines of feeding and counting systems for the packaging of frozen bread dough. We have developed, and very successfully put into operation, feeding systems designed to take frozen breadsticks, frozen biscuits, and frozen dinner rolls from the discharge of spiral freezers and accurately count these products into boxes. Rates of feed for breadsticks range as high as 230 ppm normal running (with surge capacity to 250 ppm) as these breadsticks are counted and stacked into the empty boxes below. Breadsticks can be collated and stacked, while biscuits, rolls and pucks are just counted and bulk packed. The same feeder system has been designed to run all of these different styles of products in the same feeding system, with very minimal changeover. Also incorporated into the breadstick systems is a length check station where sticks that are over/under length get rejected into a reject chute. All functions are controlled by a state of the art control panel and HIM panel, where run data, time values and count information is displayed. A stick light with run status is used on the panel and can inform the operator of any feeding issues that come up. Remote operator stations are also provided for easy operator access.



Associated with the feeding and counting equipment is an FDA approved design bulk hopper used for providing some surge capacity in the event of down time with reversing capability for quick clean out.

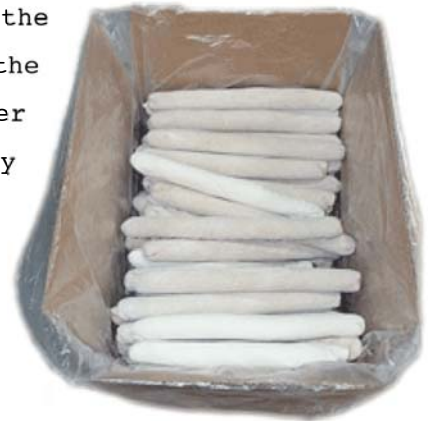
M & S can provide the empty box and full box transport conveyors, as well as the box control station where the boxes are filled and then escaped, positioning the next

empty box for the next cycle of filling, etc. The conveyors are designed and fabricated for easy cleaning in food areas and are of stainless steel construction with adjustable leveling feet. Available are straight sections, 90-degree turns and floor to mezzanine incline and decline box conveyors.

Settling conveyors are another option developed for those packaging lines, where the boxes are rapidly "jostled", encouraging the product to settle in the boxes prior to decuffing and closure. These settling conveyors are 48" in length, and settle the product by quick forward/backward motions on the high friction conveyor itself.

One more item that works well in these plant installations is a box shuttling mechanism that can shuttle empty and full boxes, on and off of a main trunk box conveyor, and merge these boxes into one discharge conveyor. This makes the layouts much easier to design and help conserve that valuable floor space.

Full CAD drawings are available for layout purposes, along with detailed information and a video of the standard frozen food equipment. M & S has worked with many different vendors and is quite capable of assisting with the design through installation and successful start-up of the equipment. Please let us know if you need any further information or if we could be of further assistance at any level. We take great pride in our workmanship and we will do our best to support the equipment throughout its lifetime.



Sincerely,

Mark L. Grinager

President

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