

Case Study: #122

Defense Industry

COMPANY

Small Arms Ammunition Manufacturer

OBJECTIVE

Develop a system that will move shell casings through the manufacturing process, eliminate manual handling and reduce casing damage.

SITUATION

The customer was using a combination of product accumulation into hoppers with manual transfer to the next machine and pneumatic tube conveying with oiled, compressed air.

Hopper accumulation dictated multiple operators per line to monitor the hopper filling and effect manual transfer. Overflow product had to be scrapped. Pneumatic conveying required an oil mist additive that was released into plant air, creating serious air quality issues. Further, air propelled casings would tap into each other during transit, causing product damage. Previous attempts to resolve these problems through the use of angled conveyors wasted an excessive amount of floor space and resulted in frequent product jams.

SOLUTION

Conveyors Direct developed a unique vertical conveyor system to carefully transport casings between operations, eliminating manual intervention while greatly improving quality. By vertically lifting the product, required floor space was reduced to a minimum. Custom-formed lifting cleats cradle products, enabling them to travel from operation to operation, without transfers, in one fluid motion. The stainless steel guides used are only 1/8" wider than the closed-top modular plastic belting, providing a precise, jam free path for product transport.

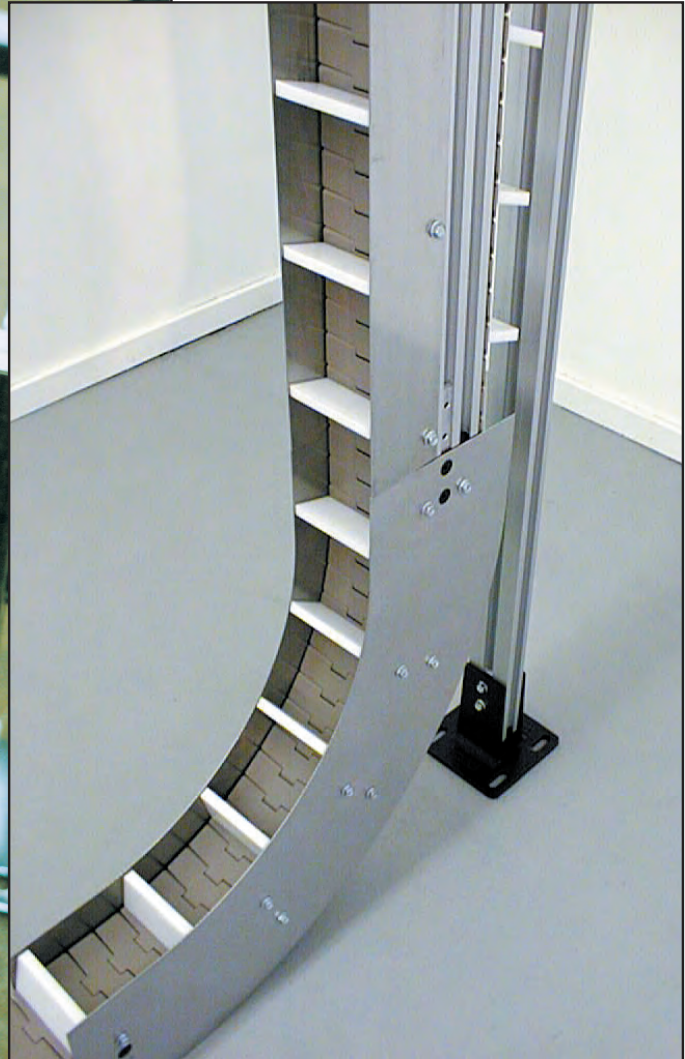
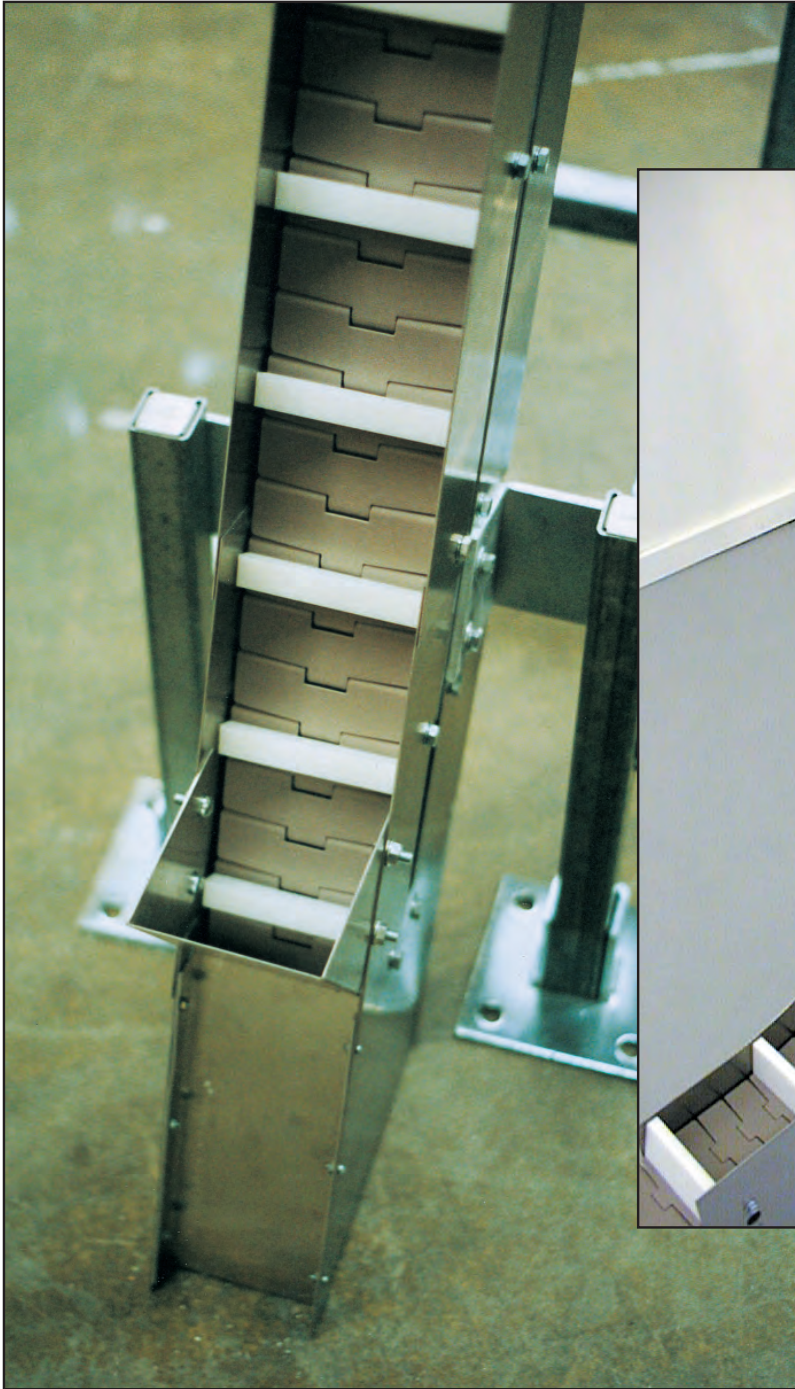
BOTTOM LINE

The new system not only greatly improved product quality, it also enhanced the plant work environment by eliminating oil mist. The system utilized minimal floor space, providing the customer with the flexibility and cost-efficiency of installing multiple lines that can be monitored by a single operator in the original amount of space.

P.O. Box 208
St. Francis, MN 55070

763.390.1293 • Toll Free: 888.875.3009 • Fax: 763.390.1305

Web site: www.conveyorsdirect.com • E-mail: info@conveyorsdirect.com



Jam free transfer from horizontal to vertical
with 90-degree precision bends.

90-degree vertical lift "L" shaped cleated conveyor saves valuable floor space.


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