

# VERTICAL RECIPROCATING CONVEYOR

## Company Description

West Pharmaceutical Services, St. Petersburg, FL, develops, manufactures and markets medical supplies to the consumer healthcare industry. Its manufacturing facility employs over 100 workers and the company has annual sales in excess of \$200 million.

## Situation

The company utilized a manual operating system to transport kitted ingredients used in making its rubber compounds. The totes measure 30" long by 24" wide by 15" high, with a fully-loaded weight of 175 lbs. Considerable manual shuttling of the totes between areas was required, resulting in an inefficient use of the workforce. The company had also maximized its floor space, which prohibited the addition of automated equipment, thus hampering future growth and increased productivity.

## Assessment

TriFactor's needs analysis determined that the company was not utilizing the cubic space above the floor of its 150,000 s/f facility efficiently. By doing so, West Pharmaceutical Services could increase productivity and decrease manual labor. In addition, it was determined that a solution was needed to eliminate the ineffectiveness of the current method of staging product in pooling points at ground level.

## Solution

The decision was made to implement a vertical reciprocating conveyor system, which would allow the company to select elevated conveyor paths, maximizing available cubic space. The new system would transport the totes to one of three mixing lines, all controlled through photo-eye logic to eliminate any backups. An operator positioned in the "kitchen area" would manage a control station directing the totes to either floor mounted or elevated zero-pressure conveyors placed at heights of 24", 72" and 120" above the floor, where they would then be discharged on to a live roller conveyor and directed to the proper mixers for processing.



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## System Summary

### Company:

West Pharmaceutical Services

### TriFactor Provided:

Initial Process & Design Study  
Final Design Engineering  
Product Selection & Procurement  
Installation & Training

### Size:

150,000 Square Feet

### Facility Type:

Manufacturing

### Products Handled:

Rubber Components in Totes

### Markets Served:

Medical Supply Industry

### Products Utilized:

Conveyor  
Scanning Equipment  
Controls & Software  
Mezzanine  
Vertical Reciprocating Conveyor



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### Result

The TriFactor team completed the project on time and on budget. The immediate results included the freeing up of floor space and improved product staging. Employees no longer diverted totes manually to predetermined locations, which freed up their time for other duties. There was also increased productivity, reduction of overhead costs, and ease of visualization for the plant manager in assessing production due to the elevation of the totes throughout the operation.

### ROI

Based on conservative projections, the new system has an ROI of about 18 months.



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