

Fortville Feeders

...the Workhorse of Industry

Smart Automation

June, 2010

Industry Thoughts: Man Vs Machine for Part Feeding

Recent Smart Automation newsletters have stated that efficient part feeding systems present an opportunity to create advantaged manufacturing solutions – with lowest cost being the Holy Grail of business. The ongoing challenge is to realize the optimal mix of labor, capital, and logistic costs – while gaining the leadership support required to fund the optimal solution.

The secret to gaining this required support is to speak the language of leadership - a Business Case (\$\$\$'s). Specific to part feeding systems, the following page is an example business case that identifies the financial advantages of “machine” Vs “man”-power. Highlights of this business case identify the following volumes where a part feeding system located in N. America is advantaged over man:

- >136,000 parts/ year – for parts manufactured in the USA
- > 2.5 million parts/ year – for parts manufactured in China

For China this Business Case does not account for the risk or costs of globally administering unforeseen quality issues or difficult launches. We encourage you to run your business case - selecting and selling your optimal solution.

Industry Thoughts: Man Vs Machine for Part Feeding

Cost comparison to feed parts to a manufacturing operation

Assumptions:

- 10 million parts/ year
- \$ 0.05 material cost/ part
- 2,000 hours/ worker/ year
- 175% Plant Burden Rate
- Product market – United States
- 10 ppm Human Handling Speed
- 300 ppm Feeder Handling Speed
- \$ 25,000 cost of Feeder System
- \$ 40,000 Full Annual Wage/ worker


China Manufacturing:

- \$ 1,081 Full Annual Wage/ worker
- 4 – 20' shipping containers/ year
- 20 days shipping/ container
- \$ 3,000 shipping cost/ container

United States Manufacturing:

- \$ 40,000 Full Annual Wage/ worker

Comparison Results (per yr):

	<u>Feeder System</u>	<u>Human - USA</u>	<u>Human - China</u>
Hours Required	556	16,667	16,667
Man Years Required	0.03 *	8.33	8.33
Labor Cost for Part Feeding	\$ 1,111	\$ 333,333	\$ 9,005
Burden Cost for Part Feeding	\$ 1,944	\$ 583,333	\$ 15,759
Shipping Cost	N/A	N/A	\$ 12,000
Cost of Capital for Shipped Goods	N/A	N/A	\$ 5,479
Total Operation Cost	\$ 3,056 	\$ 916,667	\$ 42,244
Pay back in Years for Feeder System	N/A	0.03	0.66
# of Parts for a 2 year pay back for Feeder	N/A	136,000	2.5 million



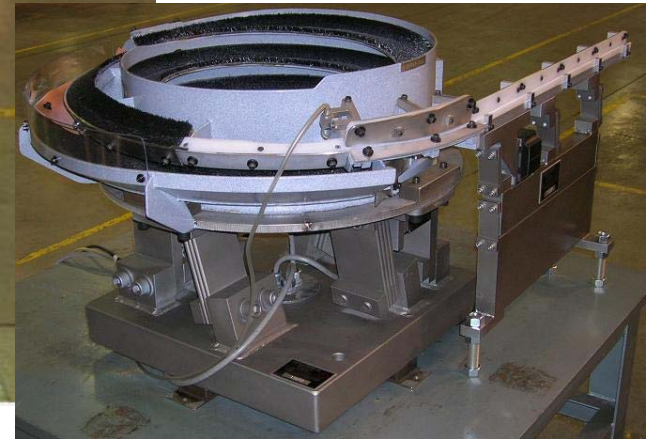
Smart Automation delivers lowest cost solution.



* Note - assumes 10% of a man to support feeder system.

Product Highlight:

Integrated feeder system with provisions for gentle part handling



- 21" feeder bowl with Surlyn coating and lined with Brushlon bi-directional material
- Inline track constructed with UHMW material at part interface for non-scarring of parts

- System accommodates various thickness of parts - from .050" to .190".
- Feed Rate = 200 PPM

Company News: Keep your Part Feeding Systems running Optimally

Vibratory part feeding systems are key enablers to allow industry to efficiently achieve high speed part automation. The physics behind these machines are a fine balance of activation forces, system stiffness/ stresses/ strains, gravitational forces, amplitudes, and frequencies. Operating conditions are often continuous and extreme – and function near the capabilities of the feeder bowl's materials and components.

Unfortunately, the demands on a vibratory feeder bowl often result in shifts of key parameters – springs fatigue; fasteners loosen; and materials wear – with the system shifting from its optimal balance. A shift from the optimal balance can result in lower production output or even complete system breakdown.

Maintaining an optimally balanced vibratory feeder system requires companies to provide an ongoing and proactive focus on servicing and maintaining these workhorses of industry. Like your car or your body, proactive maintenance is the best approach.

As an industry leader in vibratory feeder systems, Fortville operates one of the most respected and effective Service teams in the part feeding industry. Leveraging our experience, Fortville services all makes of feeder bowls/ systems. Please feel free to challenge us with your service needs – we want you to operate at peak production.

Please contact us at ffi@fortvillefeeders.com to learn more.



Products and Services:

Products

Part Feeder Systems:



- **Vibratory Bowls:**
 - 6" to 70" in dia.
 - Feed rates to 600 ppm
- **Centrifugal Bowls**

Fortville is the recognized industry leader in large, high-speed vibratory feeder bowls. Challenge us with your part.

- System design and development
- System build and validation
- System remanufacture and rework
- On-site service and support
- Service part sales

Services

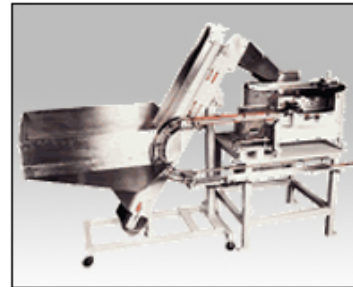
Material Handling Systems:



- **Track Feeding Systems:**
 - 6" to as long as required
 - In-line Vibratory Tracks
 - In-line Air Tracks
 - Conveyor Belt Tracks
 - Gravity Tracks



- **Automation Mechanisms:**
 - Isolation Escapements
 - Shuttle mechanisms
 - Sensor integration:
 - Vision and weight



- **Storage/ Transport Systems:**
 - Elevators and Gondolas
 - Bulk Storage Hoppers
 - Sound Enclosures

See: www.fortvillefeeders.com

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