FEEDSCAPE™
parts feeding systems

FEEDSCAPE

Feedscape technology represents a radical departure from the traditional method of handling parts through contact with their outer surfaces, to handling parts on their I.D. This seemingly simple change in approach results in significant advantages and design possibilities.

The Patented Feedscape System is comprised of a tooling rod secured by a series of alternating jaws. Parts loaded on the tooling rod through their I.D., are free to travel down the rod as the jaws open and close. This technology maintains control of the parts at all times, There is no chance of parts flipping over, shingling, or falling off.

Vibratory in-line tracks that are the major cause of part feeding problems are eliminated. Tooling is less expensive to manufacture and significantly more flexible than “in-line” styles. One set of tooling can often be used for a family of parts requiring only a similar I.D. Part jams are dramatically reduced and simpler to clear than with conventional tooling. Ordinary part-to-part variation has no effect on performance. All external surfaces of the part are exposed and therefore available for additional operations such as inspection, gauging, and many others.

Benefits/Features

- Maintains control of parts by capturing them on their I.D.
- Feeds parts previously impractical to handle due to their “outside” geometry
- Reduces downtime by minimizing part jams and simplifying clearing of jams
- Improves efficiency of feeding processes
- Eliminates more costly and high maintenance in-line tracks
- Eliminates “pick and place” units by depositing parts at point of use
- Inexpensive to re-tool if parts change
- Ideal for very high diameter to length ratios; washers, retaining rings, wave washers, Belleville springs, seals, bearings, just to name a few
- Maintains orientation of parts during feeding
- Integrates easily into vibratory bowls and other bulk feeding devices
- Valuable even with manual processes for staging parts

Multiple Feedscape Systems can be utilized in a linear or rotary arrangement to create stacks of different component parts, thereby building sub-assemblies.

MS SERIES
Servo Indexers

NT SERIES
Servo Indexers

ACCURING
Custom Rotary Tables
Large Diameter
High Capacity

DRIVE/CONTROL PACKAGES
Motor
Motor Controller
Position Feedback
Touch Screen Pendant

FEEDSCAPE
Parts Feeding Systems

VERSA-STACK
Parts Feeding System

DIAL PLATES
Aluminum
Steel
Stainless
Phenolic

MACHINE BASES

TYPICAL OPTIONS
Multi-Circuit Slip Rings
Multi-Passage Rotary Unions
Shot Pins
Elevating Dial Plates
Sealed/Air Purged

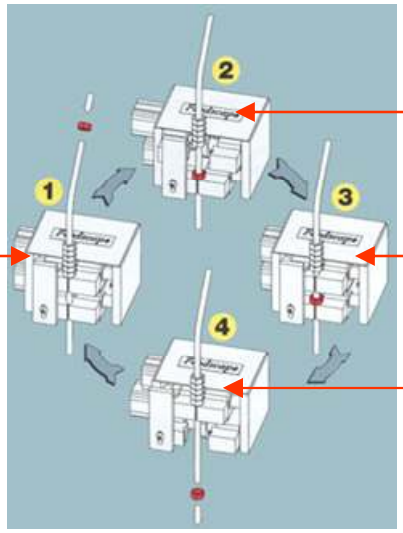
25 South State Street
Girard, OH 44420
Tel: (330) 545-5624
Fax: (330) 545-6749
www.centricity.net

CENTRICITY™
automation products

FEEDSCAPE™
parts feeding systems

WORKING PRINCIPLE

1 – Parts enter Feedscape module along guide rod



2 – Upper guide clamps open allowing parts(s) to advance. Simple tooling attached to lower guide clamp holds back additional parts during this process

3 – Upper guide clamps close

4 – Lower guide clamps open allowing part(s) to escape

Mounted on a common sub-plate, three vibratory bowl feeder/Feedscape Systems were positioned around a rotary indexer. As the indexer advanced positions the Feedscape Systems dropped component parts onto precision pins creating a stack of three parts. These stacks were then used in an assembly further down stream on the indexer.

This VersaStack utilized an MS Series Servo Indexer, two spring detanglers/feeders with Feedscape Systems, and two vibratory bowl feeders with Feedscape Systems. The dial plate on the vertically mounted indexer moved precision pins located on its O.D. to each Feedscape System, The system was cycled dropping a part at each station. Two different machined parts and two different coil springs were fed to create a stack of internal components. As the dial continued to the six o'clock position, an additional Feedscape System dropped the entire assembly into a robot mounted Feedscape System. The robot then took the stack away and deposited it to the final assembly.

Various internal component parts were bowl fed through multiple Feedscape Systems creating stacks of parts that were pre-loaded onto rods. These pre-loaded rods were then easily snapped into the assembly machine thereby loading the system. Foot pedal control cycled the assembly machine Feedscape system and "dropped" a single complete stack of internal components into the assembly. Common rods were used in the pre-loading station, and simple rod tip extensions were used to center stacks of varying inside diameters.

This fully automated assembly machine utilized multiple vibratory bowl feeder/Feedscape Systems. The AccuRing rotary indexer positioned in the center of the machine indexed fixture held bodies to each station. Each Feedscape System would drop a unique component part creating a stack of internal components inside the body. One Feedscape System fed multiple Belleville washers in a unique concave/convex pattern. The Feedscape System determined the required orientation of each washer and "flipped" it to the correct position.