

RFID Tunnels



Benefits of RFID Tunnels

Venture Research Inc. has the solution for high speed conveyor applications. With products available to satisfy both carton and pallet conveyors, the tunnel solution provides the ability to audit material in bulk. Two versions are available, the "Quietized" Enclosed and the Open Frame Tunnels, to satisfy operational requirements depending on environmental specifications.

Compatibility with State of the Art RFID Components

The tunnels support Venture Research readers and antennas optimized for tunnel applications but also supports 3rd party readers and antennas if required.

Multiple Antenna Positions Insure Product Readability

The tunnels provide the utmost in penetration and orientation for all 6 facings of conveyable product. Mounts for up to 8 antennas are available. Optional reading under the conveyor scanning is available for 360 degree readability.

"Quietized" Tunnels Minimize RF Noise and Interference

The Quietized, fully enclosed, Tunnel from Venture Research inhibits most side reads where tag material is in close proximity to the tunnel. This allows close conveyor configurations ensures singulation of the conveyable product on the line being read. Using RF absorbing material and reader tuning, side RF noise and reflections can be reduced by as much as 30 db. RF-Quiet Curtains are an available option. The curtains are reflective on one side and absorptive on the other to further isolate the reading area.

Open Frame Tunnels

Open Frame Tunnels provide industrial RFID platforms where containing the RF environment is not a requirement. They can support read-only verifiers, along with barcode scanners, to allow RFID verification to take place separately from encoding. Open Frames reduce cost while continuing to provide the protection of a ruggedized RFID installation.

Standard or Custom Configurations Available

Venture Research RF engineers can work with you to retrofit our standard offering, or develop specialty configurations to meet any operational or technical requirement. For a 4-sided reader application, plastic roller or slider bed inserts are available. High resolution barcode scanners can also be mounted at the tunnel entrance for product identification.

Product Features

Features	Benefits
Compatible with all major reader suppliers	Provides flexibility of selecting the best reader for the application
Compatible with Venture Research readers optimized for tunnel applications	Improved performance and audit accuracy
"Quietized" Tunnel reduces side noise up to 30 db	In multi-conveyor line environments, carton singulation accuracy is dramatically improved by reducing interference
Fixed floor mount or mobile configurations available	Can be attached to Flex Conveyor for a quick validation tunnel retrofit
Optional conveyor plastic inserts available	For 4-sided reads, a plastic inset under the belt provides optimum RF coverage.
Provides integration with barcode scanners	Allows reading carton and pallet barcode labels that are associated with the RFID tags

Tunnel Configurations



Enclosed Tunnel Showing
RF Curtain



3 Sided Tunnel Open Frame



4 Sided, Open Frame
Tunnel with Special Plastic
Slider Bed up to 8 Antennas



Enclosed Tunnel with High Resolution
Barcode Decoder



Open Frame Structure
Single Antenna Overhead



Pallet Conveyor Tunnel