

To think

out of the box,

first we had to think

inside the box.



SMARTAIR[®]
SYSTEM

by **Carrier**

We thought inside your perishables business. And saw a way to improve all aspects of your operation — and your profitability.

Transporting produce used to be nothing more than a means of getting cargo from Point A to Point B. But now it's an opportunity to substantially improve the profitability of your business. That's because a remarkable Carrier® innovation — the SmartAir® System — can bring you an unprecedented range of benefits.



Increase your profits.

- **Reduce your cost per box for processing perishables** every time you ripen, precool or precondition a load.
- **Make transportation a value-added profit center.** The SmartAir System turns transportation into a value-added proposition by providing in-transit processing that otherwise would have been done in costly, land-based facilities.
- **Increase cash flow** by minimizing the time between harvest and customer purchase.
- **Reduce overhead costs** by consolidating or eliminating distribution center operations.
- **Improve freight density versus container-delivered products** — more product per shipment means lower overall freight costs.
- **Eliminate transport-equipment and driver downtime** caused by waiting for processing at the source of produce. Optimize product temperatures while in transit.



Improve your product quality and customer satisfaction.

- **Reduce shrinkage and extend shelf life** by minimizing handling, and by precisely maintaining critical shipping and processing conditions.
- **Build uniformity into the system.** Achieve new quality standards by eliminating temperature variation, and precisely controlling product temperature and heat-generating respiration.
- **Enhance customer satisfaction** with produce that's fresh and in the best possible condition.



The SmartAir System's exclusive, in-transit ripening system eliminates the need for costly, fixed-site ripening rooms — and reduces source-to-store time and handling.

Remarkably precise temperature control makes the SmartAir System exceptionally versatile. It's perfect for shipping even the most delicate perishables.





SmartAir's in-transit processing adds value and reduces cost by simplifying logistics.



Optimize your facility operations.

- **Cross-dock perishables requiring processing or ripening.** When you process or ripen in transit instead of at distribution centers, you increase available distribution center space.
- **Optimize distribution center capacity.** You can free up 10 to 15 percent of your usable warehouse space by eliminating the ripening center from each facility. Now you can have a single location servicing multiple distribution centers — no redundant investment in capital and human resources.
- **Increase product throughput and capacity** to service more retail locations.
- **Enhance flexibility.** Instantly respond to market demands through the mobility of the SmartAir System. Move your products to markets without being limited by distribution center location.



Because it can precool or ripen during shipping, the SmartAir System enables more perishables to be cross-docked. That saves time and lowers labor costs — while freeing warehouse space.

It's easy to see that this unprecedented array of benefits can dramatically strengthen your business. Now see how the remarkable SmartAir System makes them possible.



SMARTAIR[®]
SYSTEM



We thought inside the trailer. And re-engineered what trailers can do.

To bring you a system that significantly extends the capabilities of refrigerated transportation for fresh perishables, we went beyond conventional reefer equipment, taking advantage of Carrier's remarkable engineering resources and today's best technology. We created a patented, engineered integration of trailer, refrigeration, and air handling components — the SmartAir System.

The result is a uniquely cost-effective approach, which provides a precisely controlled, pressurized environment with consistent pulp

temperature control. That means improved produce quality, with less shrinkage and longer shelf life.

In addition, the SmartAir System provides improved freight density compared to container shipping. And its extraordinary versatility makes it back-haul friendly.

The bottom line? The SmartAir System provides a versatile, cost-effective solution to make your customers happier and your business more profitable.

How the SmartAir System works.

SmartAir is an innovative, system solution for perishable logistics. Seamlessly integrating the trailer, refrigeration unit and air handling components, it delivers breakthrough performance through a five-step sequence that will change the way you do business.



How the SmartAir System ripens.

The SmartAir System activates a proven, three-step process for ripening that ensures consistent results for bananas and other ethylene-ripened fruit.

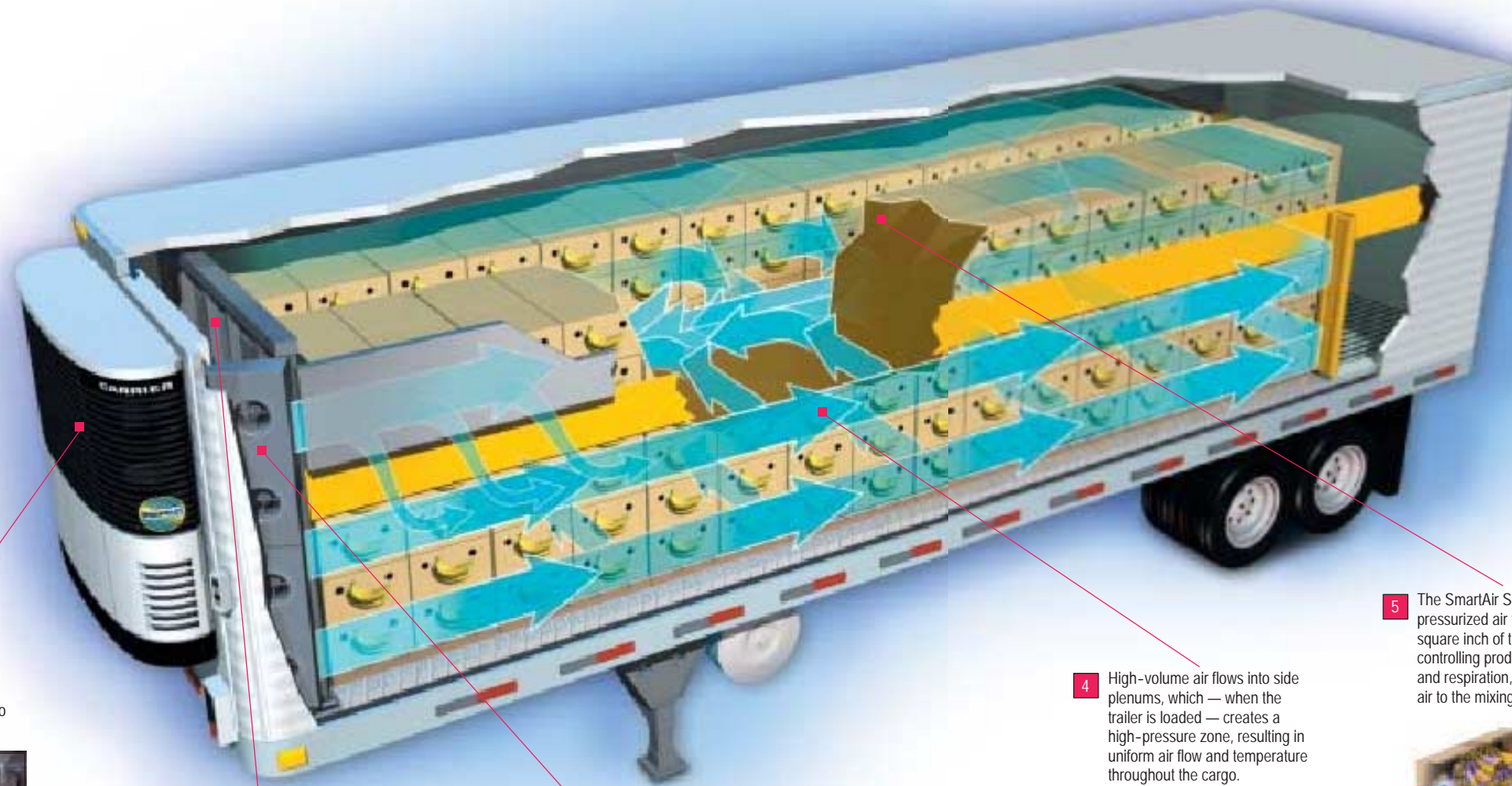
- 1. The gassing cycle.** To begin the ripening process, ethylene is introduced into the SmartAir mixing chamber, the fresh-air exchange is cycled, and powerful fan pods circulate mixed air through every square inch of the load.
- 2. The venting cycle.** Once the gassing cycle is complete, the fresh-air exchange is again cycled to vent ethylene gas, while fresh air is introduced for the remainder of the trip.
- 3. The controlling cycle.** SmartAir and UltraFresh then begin the final process of controlling capacity to maintain pulp temperature for optimum retail presentation.



How the SmartAir System precools.

SmartAir also has the ability to precool during transit. This eliminates time wasted during on-site precooling and optimizes use of the trailer for value-added transport.

- The process begins by loading freshly harvested produce directly into the SmartAir trailer.
- Once the trailer is loaded and sealed, the precooling process begins. When the SmartAir System is activated, refrigerated air is delivered at high pressure to every square inch of the load.
- While in transport, field heat is actually removed from the load.



1 Carrier's UltraFresh⁺ system discharges conditioned air into the SmartAir mixing chamber.



2 Supply air mixes with return air.



3 SmartAir fan banks geometrically increase airflow.



4 High-volume air flows into side plenums, which — when the trailer is loaded — creates a high-pressure zone, resulting in uniform air flow and temperature throughout the cargo.



5 The SmartAir System forces pressurized air through every square inch of the load, precisely controlling product temperature and respiration, then returning air to the mixing chamber.



SMARTAIR
SYSTEM



We thought how cost-effective flexibility can be. And created five opportunities in one system.

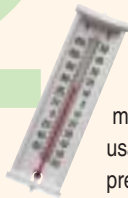
See what each can bring your business:

1



Ripening in transit. Our pressurized ripening room on wheels brings lower costs and added value to transporting fresh perishables that require ripening or preconditioning. With the SmartAir System as a mobile processing plant, your distribution centers can become cross-dock operations. And you have the potential to eliminate expensive land-based facilities. This solution provides the unique combination of precise process control for uniform results ... flexibility ... and ease of operation.

2

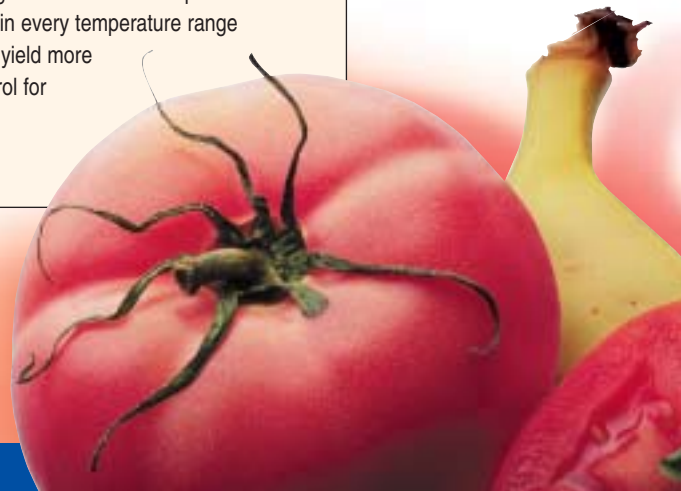


Precooling in transit. The SmartAir System provides engineered capabilities never available before in transport refrigeration. Traditional reefers are designed to simply maintain product temperature during shipping. With its patented, pressurized system and advanced air flow, the SmartAir System can *reduce* and control the temperature of products, removing heat *during shipping*. It controls the temperature of the product itself, not merely the temperature of the surrounding air. The SmartAir System can also reduce the pulp temperature of meats and other products for improved quality control. You can improve usage of fixed-site and mobile resources by eliminating the wait for precooling. More value added!

3



Versatile cargo capability. When you're not using the SmartAir System's unique technology for value-added processing, this remarkably versatile solution offers you superior capability to ship anything from ice cream to iceberg lettuce. You get all the benefits of proven Carrier refrigeration equipment in every temperature range — plus improved air flow to yield more accurate temperature control for improved product quality.



4

Sensitive product protection. Precise temperature control enables you to transport even the most sensitive cargoes, including flowers and pharmaceuticals. SmartAir equipment maintains more even temperature distribution throughout the load than has ever been possible before. That brings you the ability to control the temperature and respiration of every single item in the load — so you realize longer shelf life and improved quality versus traditional transport.



5

A distribution optimization tool. With the ability to ship further without sacrificing quality, the SmartAir System enables distribution center consolidation — extending distribution range for substantial physical plant and labor savings. Every product you ship, whether cuts of meat or ripened fruit, will arrive fresher and last longer due to the SmartAir System.



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Tell them you want it
"shipped SmartAir."



■ **A revolutionary system.**

Carrier's SmartAir System is an engineered solution to the challenges of perishable logistics. It is nothing less than a revolutionary way to transport fresh products, but it's more than that. It's a way to change the economics of your business, and improve your bottom line.

■ **Backed by the leader.**

The SmartAir System is offered and backed by Carrier Corporation, world leader in refrigeration and air conditioning. It's another component of Carrier's *Complete Package* offering, the industry's most comprehensive array of transport refrigeration products and services, supported coast-to-coast by the Carrier Transicold dealer network, and by superior product training and technical support. Another industry-leading innovation from Carrier.

■ **Find out how much you can save —
inside an entirely new "box."**

Visit www.smartair.net for more information. Or arrange for our free cost and savings analysis and an actual SmartAir System demonstration. Contact your Carrier Transicold dealer to get started.



Carrier

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