

# Carrier Transicold

*Phoenix*

**ULTRA & ULTRA XL**



The STANDARD  
in *temperature  
management*  
and system  
RELIABILITY.

# ULTRA *and* ULTRA XL.

Two Trailer System Options. The same SUPERIOR RELIABILITY and *Temperature Management.*

Both the Phoenix Ultra and Ultra XL are engineered for maximum performance, reliability, and temperature control with minimum service, maintenance, and operating cost. Top to

bottom, inside and out, no matter which Ultra system you choose you'll find many exclusive advances not available with any competitive trailer unit.

Inside, Phoenix Ultra features Carrier-exclusive TriVortex power—the cleanest burning, low-noise engine. Or, for maximum fuel efficiency, select the Direct-Injection Ultra XL. Both systems also feature the most reliable compressor going.

Ultra and Ultra XL include UltraFresh 2™, the most precise capacity and temperature control system, standard—to hold your most sensitive cargoes within two degrees of setpoint and deliver the highest quality products at peak freshness. And both offer state-of-the-art microprocessor controls with virtually automatic operation, user-friendly keypad, easy-to-read displays, and automatic pretrip, standard.

Outside, our DuraShell™ skins and doors are made of supertough, lightweight composite material. Only DuraShell skins and doors won't rust, dent, warp, fade, or peel.

All around, Carrier's Ultra systems are backed by the most extensive warranty available. And supported by expert service and genuine Performance Parts at all authorized Carrier Transicold dealers, around the corner and around the world.



**1. Ultra XL features the most fuel-efficient 2.2-liter, direct-injection diesel engine.** Carrier's performance-proven, low-friction CT4-134DI engine is highly fuel-efficient and features the longest fac-

tory-approved oil change intervals in the industry. **Phoenix Ultra features the cleaner-burning TriVortex engine.** TriVortex technology mixes air and fuel more evenly and completely to reduce



engine emissions of Nitrous Oxide, Hydrocarbons, and Carbon Monoxide by as much as 50% compared to a DI engine. And TriVortex engines are lower-noise and lower-vibration.

2. **UltraFresh 2™ standard.** At setpoints above 10°F (-12°C), UltraFresh 2 keeps perishables to within ±2°F (±1°C) of setpoint. No other system gives you more precise control, standard or optional.
3. **Industry-leading 40-CID 05G compressor** features refined components for even greater performance and reliability. Plus a comprehensive two-year warranty.
4. **3,350 CFM airflow** and balanced air distribution for unmatched cargo protection.
5. **Up-front service access.** The primary serviceable components—including the alternator—are positioned up front for direct service access. Accessing the main compartment is easy with Carrier's exclusive quick-release front doors. What's more, Ultra and Ultra XL have 20% fewer parts, so the main compartment is noticeably less cluttered than competitive units. These Carrier advantages facilitate faster, hassle-free maintenance to reduce service costs.
6. **Exclusive DuraShell™ composite skins and doors** won't rust, dent, warp, fade, or peel. Lighter-weight material absorbs noise and shock, retains its shape.
7. **State-of-the-art microprocessor control system.** Features proven long-life componentry and virtually automatic start-and-set operation. Protected in a separate weatherproof compartment, the Carrier microprocessor is simply the easiest to use.
8. **Fully automated diagnostic pretrip.** Carrier Ultra systems perform a functional pretrip test of all system circuits and components under actual operating conditions. Initiating the pretrip is a single-keystroke operation.

**Other Important Advances:**

- Your choice of HCFC Refrigerant-22 or HFC Refrigerant-404A.
- Standard Automatic Start/Stop operation cuts fuel consumption up to 75% or more.
- DuraDrive belt-drive system. One-step belt replacement takes less than half the time of conventional units. Provides up to 50% longer belt life.
- DuraDrive heavy-duty clutch and gearbox, rated at more than four times the torque requirement. Special locking pin feature overrides clutch to keep fans running.

# Even our STANDARD components perform BETTER.

## The Industry's MOST ADVANCED Engines.

Carrier offers a choice of high-efficiency, high-reliability, and highly serviceable engines. For maximum fuel efficiency, specify Ultra XL with its Direct-Injection engine (DI). Or for low noise and low emissions, specify Phoenix Ultra with TriVortex (TV) power.

No matter which system you choose, the major engine components are serviceable from the front. The offset piston design reduces engine and compressor vibration significantly, extending engine life. And oil-change intervals with synthetic oils have been extended to 3,000 hours on the Ultra TriVortex engine and 4,000 hours on the XL system's DI engine—longest in the industry. Plus, both feature Carrier's industry-leading warranty.

The Ultra XL Direct-Injection engine reduces friction to maximize fuel efficiency and minimize maintenance.

The Phoenix Ultra TriVortex engine employs a super-efficient, fuel-spray combustion system for the optimum mixture of air and fuel. This ensures complete combustion, greater power output, lower noise and vibration, and cleaner exhaust. Noise levels are low enough to meet even the most stringent standards.

No matter which engine you choose, you get proven performance, low maintenance, long life, and high reliability.

## AUTOMATIC Start/Stop FUEL-SAVING system.

Automatic Start/Stop cuts reefer system fuel consumption up to 75% or more. This Carrier exclusive comes standard with our microprocessor controller. Auto Start/Stop is an energy-efficient

alternative to continuous operation because the engine only operates when needed to maintain cargo temperature. Because engine running time is greatly reduced, engine life is increased.



## Industry-leading 05G COMPRESSOR.

Built by Carrier exclusively for transport refrigeration, 05G is the industry leader in reliability.

Thirty percent bigger than our competitor's biggest compressor, our 40-CID, 6-cylinder design delivers faster cooling capacity and pulldown for today's sensitive cargoes—perishable to deep frozen.

Our exclusive PosiLube oil-pressure protection ensures complete compressor lubrication, even in subzero temperatures. Dual-ringed pistons reduce blowby and oil circulation to improve reliability and maintain efficiency as operating hours mount up.





## The *most advanced* MICROPROCESSOR controller yet.

Carrier's exclusive microprocessor system features virtually automatic operation in a system that's extremely user-friendly for pretrip and service.

Fully-automated diagnostic pretrip is built into every micro. The system performs a functional pretrip test of all system circuits and components under actual operating conditions, unlike competitive systems, which don't pretrip defrost.

To improve system reliability, we seal the control box with O-rings, dip-coat all electronic boards, and use triple-sealed connections throughout the wiring harness. This makes the Carrier micro virtually impervious to water.

To enhance serviceability, we stamp-addressed all wires in the harness. We also added service plugs to make it easy to check current flow without cutting the harness or wiring.

More operating data is available, giving

technicians more complete information instantly for faster troubleshooting.

Ultra's temperature logic optimizes compressor speed and cylinder unloading for maximum pull-down speed, box temperature control, and recovery.



### Other Carrier micro ADVANTAGES:

- Automatic start-and-set operation.
- Backlit digital displays feature a larger, more precise digital format for exceptional visibility.
- Alarm displays in English or alphanumeric code; both are built-in.
- External PC compatibility for outboard testing and diagnostics.
- Optional remote light bar.

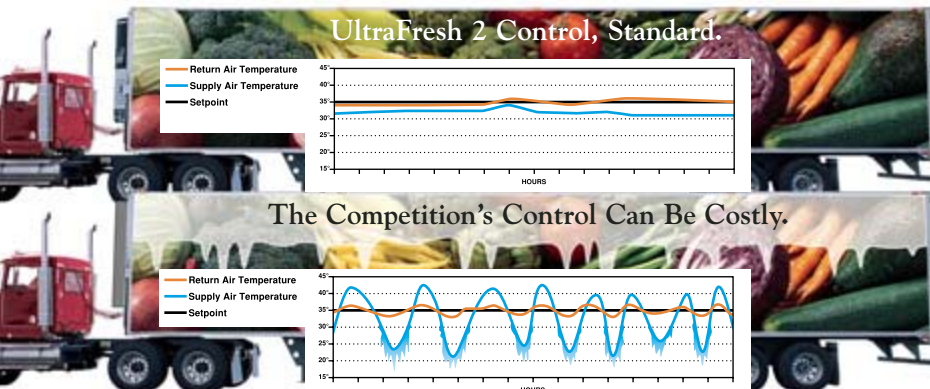
## ULTRAFRESH 2. PRECISE *temperature control* means *total cargo* PROTECTION.

Central to system performance and temperature maintenance is UltraFresh 2 control, standard. Utilizing the most advanced computer logic, UltraFresh 2 gives you pinpoint capacity control without complicating the refrigeration system—or reducing low-end capacity. The competition only offers capacity control as a cost-added option.

At setpoints above 10°F (-12°C), tests confirm UltraFresh 2 holds box temperature to within 2°F (1°C) of setpoint, with total supply-air temperature variation of ±2°F (±1°C).

With competitive units, perishable products loaded near the supply-air outlet risked top freezing. With their standard unit, supply-air temperature varied 8°F (4°C) above and 12°F (7°C) below setpoint.

Overall, Ultra and Ultra XL deliver the most precise temperature control, maximum capacity for rapid pulldown and recovery, lower fuel consumption, reduced product dehydration, less spoilage, and longer shelf life.



# Carrier gives you LOTS of extras. For NOT a lot extra.

## DURASHELL composite skins and doors.

Formed from the same material used in today's over-the-road tractor bumpers and body panels, Carrier's exclusive composite skins and doors won't dent, warp, fade, or peel. This super-tough, flexible material is much more forgiving than steel. It absorbs shock and pops back to its original shape—keeping your equipment looking new.

Overall, you'll probably never have to repair, repaint, or replace a door or body panel again. But if you do, you can replace a

DuraShell door for a fraction of the cost of a metal door.

DuraShell doors can be removed in seconds, allowing full-width, up-front service access. Front doors are mounted using spring-loaded hinges. Simply pull the hinge bar and remove the door. Quick-release doors, and a spacious main compartment, give Ultra and Ultra XL unmatched service access.



## DURADRIVE belt-drive with HEAVY-DUTY clutch and gearbox.

The DuraDrive assembly features a heavy-duty clutch and gearbox to simplify the entire drive mechanism. Overall, the DuraDrive system is more reliable, easier to service, and maximizes belt life.

New thicker, wider, stronger belt design delivers heavy-duty service, and improves belt life by up to 50%. All belts can be replaced in one step, in less than half the time required with conventional high-capacity units. Faster belt change not only saves time, it cuts labor costs.

DuraDrive eliminates defrost dampers, damper solenoids, bushings, and sensors—and the possibility of damper failure. Also part of the Ultra belt-drive

assembly, the alternator is positioned right up front, for quick and easy access. DuraDrive's clutch and gearbox are rated for heavy-duty applications. More than four times the required torque capacity ensures lasting reliability. It's the same design used in rugged off-road and military vehicles and by leading over-the-road tractor builders, including Peterbilt and Mack. This assembly has been used for years and proven in millions of hours of service-free operation.

Special locking pin feature keeps the fans running should the clutch ever fail. And the gearbox is maintenance-free for life.

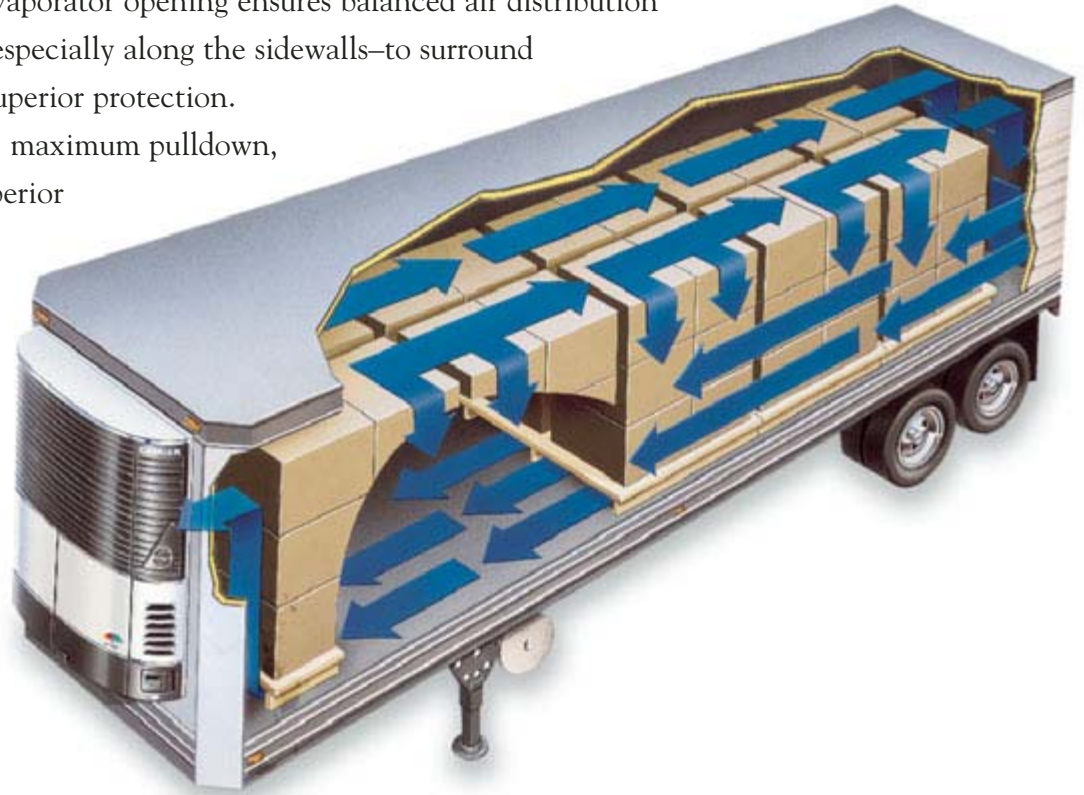
SUPERIOR *airflow*, BALANCED *air distribution*  
for THINWALL trailers.

Carrier's belt-and-fan drive system generates superior airflow—the optimum mix of air discharge configuration, velocity, and volume. Airflow is 3,350 CFM, unmatched in the industry.

Because we've eliminated defrost dampers, airflow is unrestricted and considerably more efficient.

And the advanced evaporator opening ensures balanced air distribution throughout the trailer—especially along the sidewalls—to surround sensitive cargoes with superior protection.

Exceptional capacity, maximum pulldown, shorter defrost time, superior airflow, and balanced temperature distribution. They're yours with Ultra and Ultra XL.



RoadCare *Extended MAJOR Component Coverage.*

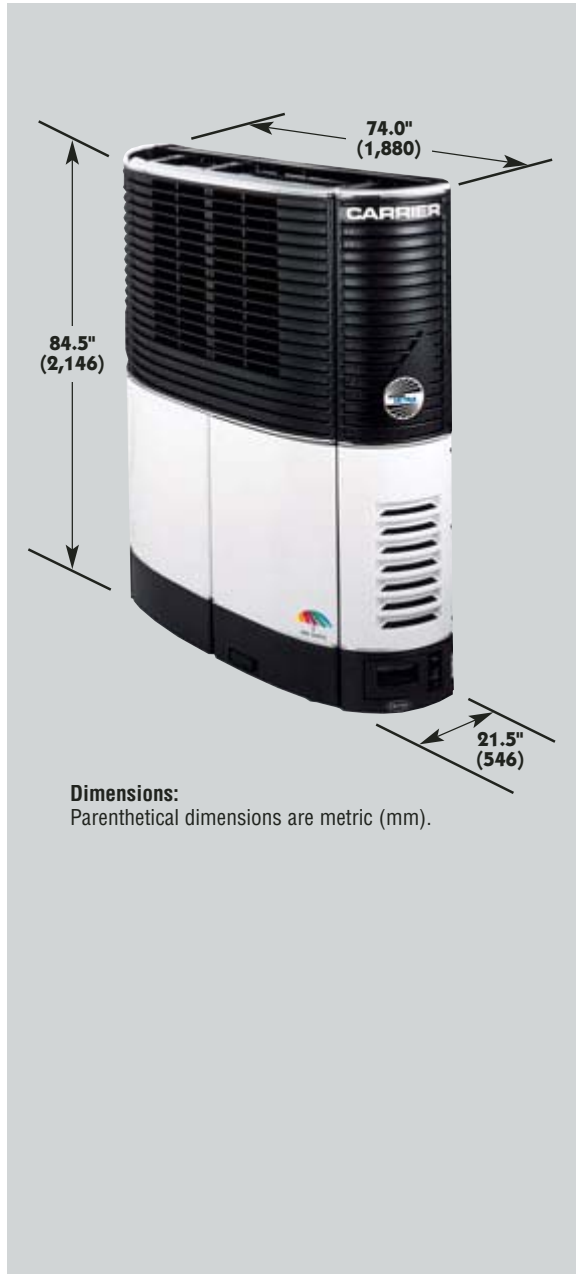


Carrier's exclusive RoadCare™ Extended Major Component Coverage (EMCC) is available on every new Ultra system for up to eight years/16,000 hours, whichever comes first. What's more, coverage can be customized to your specific needs. You can specify virtually any combination of years, hours, or deductibles (up to \$500). Best of all, EMCC travels with your Ultra systems, so you can expect prompt, attentive service at any authorized Carrier Transicold dealer in the U.S., Canada, and Mexico—without prior approval. And you may purchase EMCC up to six months after your Ultra systems are delivered.

# PERFORMANCE Specifications

Phoenix

## ULTRA & ULTRA XL



**Dimensions:**  
Parenthetical dimensions are metric (mm).

**Standard Features Include:**  
05G 40-CID compressor  
CT4-134TV TriVortex engine  
(Phoenix Ultra)  
CT4-134DI Direct-Injection engine  
(Ultra XL)  
UltraFresh 2™ temperature control

DuraShell™ damage-resistant composite skins  
Refrigerant-404A or Refrigerant-22  
Advanced microprocessor control system  
Automatic Start/Stop  
Self diagnostics  
ClickSet tactile-feedback keypad  
Automatic pretrip  
Timed defrost interval  
Battery voltage monitor  
On-Time interval selection  
Off-Time interval selection  
High airflow selection  
Display indicators:  
Cool - Heat - Defrost - Auto-Start - In-Range - Hi-Air  
Digital displays:  
Setpoint temperature (°F or °C)  
Return-air temperature (°F or °C)  
Ambient temperature (°F or °C)  
Engine coolant temperature (°F or °C)  
Optional discharge air temperature (°F or °C)  
Suction pressure  
Battery voltage  
Engine hours  
Standby hours  
On Time hours  
Programmable maintenance hourmeters (2)  
Control panel:  
Stop/Run switch  
Ammeter  
Manual glow/manual start switch  
DuraDrive heavy-duty belt-drive system  
Taper roller bearing fan shaft  
Fan drive clutch locking feature  
Built-in battery box

High-power 65-amp alternator  
Auto low-speed unloaded start  
Heavy-duty dry-type air cleaner  
Bypass oil filter  
Constant fuel-filter bleed system  
Spin-on fuel and lube oil filters  
Mechanical fuel pump  
High-capacity lube oil system  
50-gal. aluminum fuel tank  
Super-quiet muffler  
Screw-post battery terminals  
Battery mounting provisions and cables  
Low coolant level indicator  
Defrost termination switches  
Stainless steel refrigerant hoses  
High refrigerant pressure protection  
Control circuit overload protection  
Low oil pressure protection  
High coolant temperature protection  
Drain-pan heater  
Antifreeze  
Installation package  
Industry-leading warranty

**Accessories and Options:**  
DataLink™ data recorder  
Diagnostic monitor program  
DataTrak™ satellite communications  
Door open shut-off switch  
Low fuel shutdown  
Fuel tanks  
Remote (aluminum):  
30 gal.  
75 gal.  
100 gal.  
120 gal.  
Antisiphon fuel fill  
Fuel heater  
Post-style battery terminals  
Silicone hoses  
Custom color paint  
Remote light bar  
Remote temperature probes (2)  
Electric standby  
Noise reduction kit  
Impact protection bumper  
Microprocessor protection bumper

**Approximate Weights:**  
NDA94A 1,610 lb. (730 kg)  
50-gal. aluminum fuel tank 65 lb. (29 kg)  
30-gal. aluminum fuel tank 56 lb. (25 kg)  
Battery 50 lb. (23 kg)

**Cooling Temperature/Capacity:**  
Ambient at 100°F (38°C). Speed: 1,900 rpm diesel.

	Evaporator Return Air Temperature	Btuh	Kcal/hr	Watts
<b>Refrigerant-22</b>	-20°F (-29°C)	20,500	5,166	6,008
	0°F (-18°C)	35,000	8,820	10,257
	35°F ( 2°C)	54,000	13,608	15,826
<b>Refrigerant-404A</b>	-20°F (-29°C)	21,000	5,292	6,154
	0°F (-18°C)	34,500	8,694	10,111
	35°F ( 2°C)	46,000	11,592	13,481

**Warranty:**  
See form 62-02481 for warranty terms and conditions.

This warranty applicable only in North America. Consult your Carrier Transcold representative for warranty coverage elsewhere.



**Carrier**

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