



Precedent™ Multi-Temp

The most environmentally sensitive multi-temp unit we've ever made offers improved efficiency and a lower cost of ownership.



All-New Diesel-Direct Electric (DDE) Architecture: **DESIGNED TO OUTPERFORM EVERYTHING**

The Precedent platform utilizes an all-new DDE architecture to drive optimum efficiencies and double-digit fuel savings across real-world applications. It's a smarter approach, with the expressed goal of making a lasting difference on your budget.

In addition to integrating technologies new to transport refrigeration, there are also some familiar components residing within the Precedent architecture. The well-proven X-430 reciprocating compressor provides the performance and reliability Thermo King is famous for and, when combined with the new architecture, delivers better operating efficiencies than ever before.

ARCHITECTURE



Why DDE?

Diesel-electrical vs. diesel-mechanical. It was the central debate when deciding Precedent's architectural framework. Instead of choosing one, we chose the best of both.

- ▶ Our new platform utilizes DDE architecture to drive optimum efficiencies and double-digit fuel savings.
- ▶ DDE ensures minimal energy loss and maximized fuel efficiency and reliability when compared to an diesel-electric solution.

PRECEDENT MULTI-TEMP



THE COMPONENTS THAT PUT PRECEDENT MULTI-TEMP IN A CLASS BY ITSELF:

Microchannel Condenser Coils

Unique curved structure and more than double the surface area ensures no “dead spots” to compromise your operations.

Common Rail Fuel Injection

Provides a breakthrough solution that meets all known emissions standards without the need for an expensive aftertreatment system.

Appearance Options

Options include chrome grills & accessories and LED lighting for a custom look both day and night.

Proven Diesel Direct Electric

Ensures minimal energy loss (as opposed to an all-electrical solution) while maximizing fuel efficiency and reliability.

Reciprocating Compressor

Founded on a nearly 40-year operational legacy for unmatched serviceability and substantial efficiencies.

Turbo

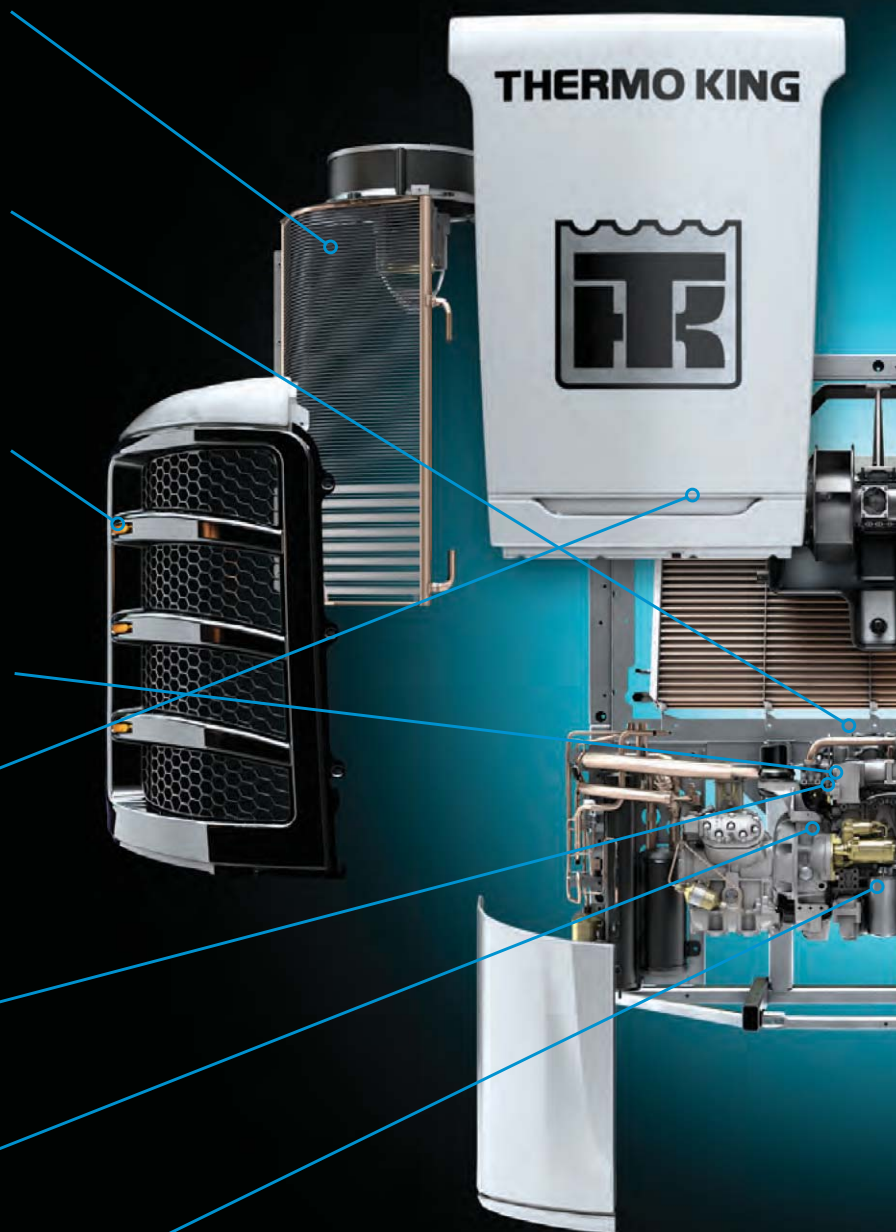
Provides emissions compliance without the need for a Diesel Particulate Filter (DPF).

Testing

Precedent has undergone strenuous testing for three years to ensure optimal performance under all conditions.

Serviceability

Filtration systems are built around a 3,000 hour expected maintenance interval with improved accessibility.





Condenser Fans

Smart induction motors operate electronically-driven fans based on conditions and needs of the refrigeration system.

Evaporator System

Utilizes dual-speed induction fan to maximize airflow at high and low engine speeds.

Diesel Oxidation Catalyst

Helps deliver industry-leading performance in reduction of hydrocarbons and carbon monoxide emissions.

Belt Life

Each of Precedent's belts is made of high-grade engineered rubber and designed to last 12,000 hours.

Exhaust Gas Recirculation

Light solution meets government NOx emission standards without penalizing fuel efficiency.

Battery Charger

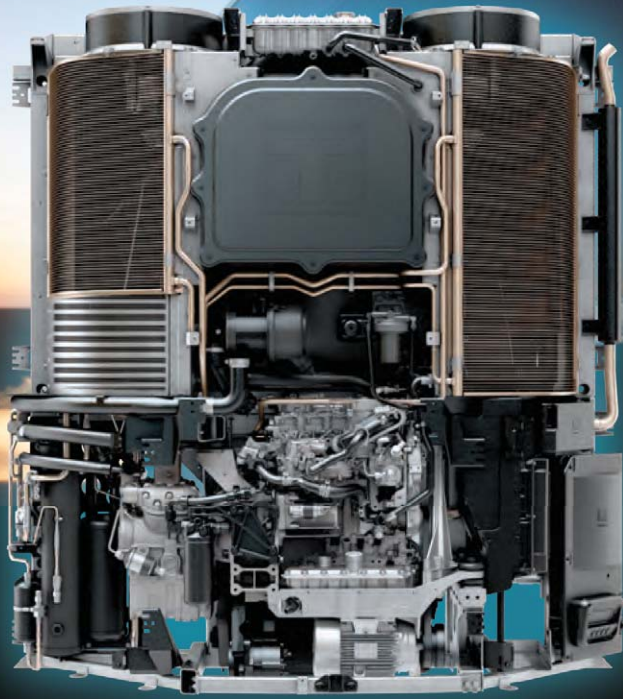
An option to our traditional alternator, the electronically-driven battery charger provides superior longevity and reliability.

Generator

Permanent Magnet Generator provides smaller, lighter and more reliable package for improved performance.

SmartPower

Offers superior temperature control in electric standby situations. Available in both standard and high-output versions.



INGENUITY. AS APPLIED TO YOUR BOTTOM LINE.

IMPROVED PERFORMANCE AND EFFICIENCY

PRECEDENT

S-600_M

With Precedent Multi-Temp's architecture, we scrutinized everything. Components were meticulously researched, compared and optimized. In some cases, we made substantial upgrades. In other cases, we improved what already works. And in the end, we arrived at a system that delivers superior temperature control and pull-down performance while helping provide double-digit gains in fuel efficiency.

ELECTRONIC THROTTLING VALVE (ETV)

A standard feature of Precedent Multi-Temp, the ETV uses a microprocessor to precisely control the refrigeration system to save you both time and fuel during pull down.

EVAPORATOR SYSTEM

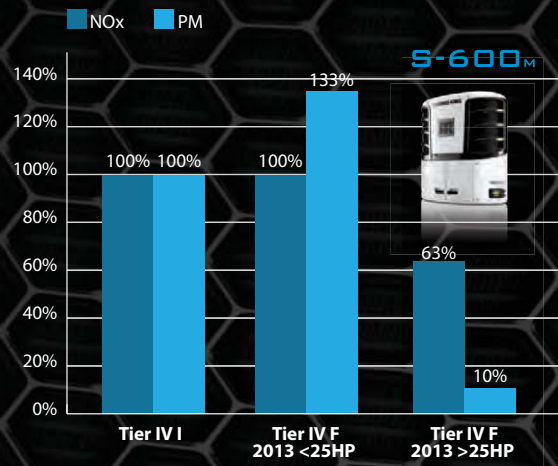
A new evaporator assembly moves air more efficiently than ever. Leveraging the Smooth Air™ blower system, the airfoil blade profile and contoured air inlets deliver high-speed airflow with low-speed engine power. As a result, you can expect improved fuel savings, optimal protection of fresh loads and greater efficiency in single-temp backhaul operations.

CONDENSER SYSTEM

Precedent Multi-Temp's condenser system features two large coils and more than double the surface area. Plus, the electronically-driven fans can operate independently based on the needs and conditions of the engine and refrigeration system, saving fuel.



2013 EMISSIONS REDUCTION (REGULATORY LEVELS)



THE MOST ENVIRONMENTALLY SENSITIVE MULTI-TEMP DIESEL-POWERED UNIT WE'VE EVER MADE!



ARCHITECTURE

DOUBLE-DIGIT GAINS
IN FUEL EFFICIENCY



ENGINE

REDUCED EMISSIONS:
90% REDUCTION IN PM
37% REDUCTION IN NOx

At first, you'll notice how quietly the >25HP Peugeot engine operates. On closer inspection, however, you'll quickly discover that the engine in our new Precedent S-600M is a breakthrough for the food distribution industry.

COMMON RAIL FUEL INJECTION

This engine utilizes a high-pressure common rail to elevate fuel pressure to approximately 20,000 psi to minimize particulate matter residues and emissions within the cylinder itself. As a result, the engine runs cleaner and avoids the costs and complexities of a high maintenance aftertreatment system like a Diesel Particulate Filter (DPF).

TURBO CHARGER

The small displacement turbo is utilized to control particulate matter emissions within the combustion chamber. A simple air-to-air intercooler provides maintenance-free operation for the 25,000 hour design life of the unit.

EXHAUST GAS RECIRCULATION

Our customized "EGR Light" solution recirculates a small amount of exhaust back into the combustion chamber in certain load conditions to help control NOx emissions standards without penalizing fuel efficiency and engine performance.

DIESEL OXIDATION CATALYST

Delivers industry-leading performance in the reduction of hydrocarbons and carbon monoxide emissions without relying on a filter.



OPTIONS

Precedent Multi-Temp Options:

CUSTOMIZABLE FOR YOUR BUSINESS

For over 75 years, Thermo King has offered the most choices to help your business get the right solution for your specific needs. Precedent Multi-Temp is no exception.

SmartPower™ Prep Package

Many customers elect to purchase SmartPower initially, thinking the need for it may arise in the future. For customers who want the flexibility and comfort of knowing their units have the ability to meet changing market conditions, we offer the SmartPower Prep Package. This package allows you to upgrade units post-purchase to accept the SmartPower electric standby system. At any time post-purchase, any Thermo King dealer can convert your unit from non-shore power equipped to shore power equipped and operational in less than a day. For flexibility in asset utilization, the SmartPower prep package may be the perfect addition to Precedent units.

Fuel Tanks and Sensors

Precedent offers a range of fuel tank options – all of which are available with our Ultra Sonic Fuel Level Sensor. In addition, each tank has a visual site gauge for quick fuel level confirmation. For those who prefer a tank without the Ultra Sonic Fuel Level Sensor, we offer two tanks with traditional float-style gauges.

120 Amp Battery Charger

Allows you to improve fuel efficiency and reliability over standard alternator-equipped units.



Remote Evaporator Guards

Prevent damage and protect your equipment during loading and unloading with these remote evaporator guards.

- Welded, 3/4" aluminum frame is extremely strong, but still lightweight for easy installation
- Hinged design makes service access a snap
- Takes minimal head room by following the profile of the evaporator as closely as possible

CargoLink™ Wireless Sensors

The CargoLink wireless sensor system offers enhanced load protection while saving money on installation and reducing maintenance. The wireless door sensors improve efficiency and reduce temperature swings inside the trailer by shutting down the unit while doors are open. The wireless fuel sensors provide fuel data to the unit or to TrackKing telematics, whether the unit is on or off, for improved visibility and security. This system has been engineered for durability and reliability in the demanding transport refrigeration environment with an IP-69k rated sensor enclosure, a 500' signal range, UV-protected materials, and smart two-way communication.

CargoWatch™ Food Safe Temperature Sensors

Monitor temperature where it matters most – at the product!

- Minimize reports of false temperature swings caused by temporary air temperature changes
- When connected via TrackKing, you can remotely monitor cargo temperature, ensure temperature is accurately set and be notified if the product level temperature is out of range
- Food-safe NSF stainless steel construction with accuracy of +/- 1°C
- Up to six sensors can be use per truck or trailer



MULTI-TEMP

OPTIONS

SmartPower Electric Standby:

- ☐ Standard
- ☐ High-Output
- ☐ SmartPower Prep Package
- ☐ SmartPower Remote Receptacle
- ☐ Severe Duty Package
- ☐ Supplemental Power Kit
- ☐ Arctic Package

Appearance Packages:

- ☐ LED Lighting Kit
- ☐ Chrome Package
- ☐ Battery Charger

Fuel Tanks with Ultra Sonic Fuel Level Sensor (USFLS):

- ☐ 30 Gallon (also available w/o USFLS)
- ☐ 50 Gallon (also available w/o USFLS)
- ☐ 75 Gallon
- ☐ Anti-Siphon Device



CHECKLIST

Batteries:

- ☐ EON
- ☐ MaxPlus
- ☐ ReliaMax

TracKing Telematics:

- ☐ TracKing – Satellite
- ☐ TracKing – Cellular
- ☐ I-box Interface

Remote Status Lights:

- ☐ Triple Combo
- ☐ Fuel Combo
- ☐ Status Only

Door Switches:

- ☐ CargoLink™ Wireless Door Sensors
- ☐ Wired Door Switches

☐ **CargoWatch™ Sensor Kits**

☐ **CargoWatch™ Food Safe Temperature Sensors**

Air Management:

- ☐ PrimAir™ Return Air Bulkheads
- ☐ Remote Evaporator Guards



Ingersoll Rand's Climate Solutions sector delivers energy-efficient HVACR solutions for customers globally. Its world class brands include Thermo King, the leader in transport temperature control and Trane, a provider of energy efficient heating, ventilating and air conditioning systems, building and contracting services, parts support and advanced controls for commercial buildings and homes.

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