

What Is A Truck Refrigeration System?

A truck refrigeration system also known as a reefer. A [truck refrigeration system](#) is a semi pulling refrigeration trailer, designed to haul the perishable goods. It is an internal container used for intermodal freight transport that is refrigerated for the transportation of

temperature sensitive cargo. The general options are available to support freight in a cool or fresh temperature range or in a frozen temperature range. A cold range is usually used for loads such as fresh food or other perishable items. A truck refrigeration system could be temperature adjustable to haul heated goods as well, but it's less common. You can find the truck refrigeration system using a couple of different cooling methods. You may see both diesel powered generators and cryogenic cooling systems.



How does the Truck Refrigeration system works

The truck refrigeration system operates on a closed system. Removing heat and maintaining a steady temperature is what a refrigeration system is all about. They operate by collecting and pumping heat throughout the systems. Here are the core components that are making this work.

- **The compressor**

There is a small engine within the refrigeration system that drives the compressor. The compressor draws in *gaseous refrigerant* and compresses it. The pressure from this liquefies the gas. This then gives off heat to the body of the compressor and air itself. From here, the temperature is still fairly warm, and the refrigerant goes through to the condenser.



- **The condenser**

The condenser receives the liquid from the compressor. Then a heat exchange process begins. The warmth of the liquid flows to the walls of the tubing, then outside to the attached fins. The fins provide more surface area with which to cool outside air that comes in through the condenser fan. The process is very similar to how a radiator cools an engine.

- **The evaporator**

The evaporator is located in the trailer. The refrigerant that has now given up most of its heat to the condenser has turned into a cool liquid. The refrigerant is then released into the evaporator through a metering valve that works like a throttle to control the amount of cooling.

In the evaporator the refrigerant expands and becomes a gas. As it goes through this process it absorbs lots of heat from the surrounding finned coils, which transfers heat from air flowing over the fins to the refrigerant. The trailer is being cooled by giving up some of its heat to the evaporator. This entire process continues to repeat until the desired temperature is reached.

Parts of a Truck Refrigeration

The truck refrigeration naturally has more parts than a standard shipping trailer. Here are some various pieces:

- Truck refrigeration system
- Insulated box
- Air chute
- Air ride suspension
- Tire inflation system

Most truck refrigeration systems are 53 feet long, though they are available in other sizes as well. If you want more detail you can contact [refrigerated trucks services](#) for more information.

Final mechanical tidbits

Everything that is stated above is what makes the truck refrigeration system work properly and requires fuel. This means a higher cost of operation for a driver or company. Adding on to the typical fuel you need for the truck, you will also need to keep the truck refrigeration system fueled. Which means higher fuel costs.

Most truck refrigeration tanks hold up to around **50 gallons of fuel**. This should last anywhere from four to five days, but it can vary. Proper maintenance, ambient temperature and overall condition of the trailer and unit can affect the truck refrigeration fuel consumption. Since the

truck refrigeration units operate on a closed system cycle, how you drive does not affect its fuel consumption.

Last but not least, the temperature range on the truck refrigeration system unit is remarkable. You can find units stretching from a negative 29 degree celsius to as high as 40 degrees celsius.

4 Cold Hard Facts About Using a Refrigerated Truck for Business

1. How much space do you need?

Not all refrigerators and freezers are the same. Although some can hold 3 full-size moose, some can only hold one paddle and one six-pack abs. This is essentially the same for refrigerated trucks. Regardless of your needs and constraints, there is a climate-controlled vehicle that can meet your delivery needs.

For growing companies and wholesale companies, it is necessary to have enough space to store frozen products. However, in some places, such as narrow city streets or low-ceiling parking lots, too much space may reduce efficiency and labor intensity. When choosing the right equipment for you, the operating environment and storage requirements are important factors to consider.

2. Consider industry demands

Not all delivery situations have such restrictions and require smaller vehicle sizes. For wholesale work, the possibilities are really great. If you are transporting large quantities of goods, there are several types of box trucks that can be used in the field of frozen agricultural products.

From cabling box trucks to flatbed trucks, there is always a body style that can meet your storage needs and size constraints. Depending on the degree of specialization of your application, you can always choose to **customize a specific unit** according to your delivery needs. Contact us now to request your personalized quote

3. Consider how your refrigerated trucks works

Take a refrigerator and put it in the back of your truck. Easy! Not even close. Refrigerated trucks do, in fact, they have a built- in refrigerator or freezer. However, these units operate seamlessly with the vehicle's electrical and charging system.

An **engine mounted compressor** paired with a **skirt mounted condenser** makes things cold, while fans direct air to each and every part of the unit. These systems use the vehicle's factory components to generate the electricity needed for the refrigerated delivery.

4. Making your budget work for you

When looking for refrigerated trucks or vans, one problem you may encounter is price. However, there are some affordable options:

Consider a truck tailored to your specific size and space needs. There are a large fleet of vehicles that fit their price range very well. You can also consider equipping the vehicle with a certain degree of cooling. If you have a truck or van that you want to use for your business, check how much it costs to add a refrigerator system to it. It may turn out to be a cheaper and more efficient option than buying a rig overly excessive for your needs.



With this insight of the **truck refrigeration system**, do check out refrigerated trucks services and get the suitable one you want and need!