Eco-Friendly All Above-ground Modular Chimera Fueling Station

There's no reason to dig any deeper...

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TO SEE PRESENTATION ONLINE GO TO: http://energymaster.ca/manuals/modular-above-ground-gas-station.pdf
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There’s no reason to dig any deeper...
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The Chimera Fueling Station Team

**Trillium Fueling Systems Limitada**’s team is made up of dedicated businessmen from diverse industry backgrounds including the inventor Mr. Philip Peter Andree. **Trillium Fueling Systems Limitada** has manufactured and installed numerous systems and is supported by a team of international engineers and manufacturers.

It is important to mention that of the countless people on this planet who care about its future, [energymaster.ca](http://energymaster.ca) and **Trillium Fueling Systems Ltda** provides a better solution for our environment.

**Trillium Fueling Systems Limitada** has confidently developed one of the finest, most innovative products to serve the retail petroleum industry. There is no better opportunity for this product to set the standard for the market than right now.

**Trillium Fueling Systems Limitada** is proud, as a corporation, to offer solutions to a serious, well-known environmental issue.

*We’re Building a GREEN Station – From the Ground Up*
The Chimera Fueling Station System Alternative

Energymaster.ca with its Chimera Fueling Station system is committed to developing a sustainable future and reducing our environmental footprint.

Energymaster.ca’s assessments of countless traditional service station sites comprehends the challenges and expense involved. An environmental report to determine whether contamination exists may cost from $10,000 to $25,000. When tanks have reached their service life and need to be replaced, the cost for site upgrades can be in the range of $100,000 or more. When impact has been identified, either from failed pipelines or tanks, remediation costs from underground released contamination easily exceed $100,000.

Energymaster’s innovative approach takes green to a new level – above ground, resulting in a system of fuel storage and delivery that is environmentally friendly and cost-efficient.
Every person to whom we’ve presented the Chimera All Above Ground Fueling Station SYSTEM has had the same reaction: “Why isn’t the petroleum industry using this system?” The answer is simple: No such system has been available on this scale – until now.

Trillium Fueling Systems Limitada’s commitment is to share its intellectual property and knowledge about this technology with exceptional partners, and promote the Chimera All Above Ground System as quickly as possible to petroleum industry players.

• Why aren’t they all using this system?

• The answer is simple:

• No such system has been available on this scale – until now.
The Traditional Fueling Stations

There’s no reason to dig any deeper...
Features Of The Traditional Gas Station

- The fuel is stored in an underground tank
- Installation time: 4 – 6 weeks
- Environmental risk
- High maintenance and inspection costs
Underground Storage Tanks Depreciate The Value Of Land

Chimera Fueling Station allow sites to appreciate **in value**!

- Underground tanks depreciate the value of land and limit options if you decide to relocate or sell
- High tank inspection costs
Presentation Of The Chimera Fueling Station
Above Ground Fueling Station

There’s no reason to dig any deeper...
With a Chimera Fueling Station system, there’s no digging into the unknown. All components are installed above ground.

Literally standing above all others, the modular Chimera Fueling Station SYSTEM™ is tailor-made for client’s application, and can be installed on any type of soil.

Built to all fire and safety codes, the Chimera Fueling Station SYSTEM is certified to meet all UL standards including shop manufacture quality procedures.
Environmentally safe

Totally above-ground, the Chimera Fueling Station SYSTEM™ requires no digging, is virtually risk-free for the environment and will not have an impact on public health because there is no danger of groundwater contamination.

Bio-fuel-compatible (including E 85)

FIREGUARD™ tanks are compatible with all retail fuels, including bio-diesel and E-85 ethanol blend.
Prefabricated to controlled specifications for on-site professional installation, the modular system readily permits addition of dispensers, a canopy or expanded storage and dispenser capacity. The compact space-saving designs are transportable, re-locatable and economical. This feature is sure to please prospective landlords and simplify negotiations on leased land and installation.
Fireguard™ tanks are built to the UL2085 standard for vehicle and ballistic impact, plus a two-hour fire rating. For added security, an invisible vehicle impact rail is built into the wall structure of the unit. Use of the Fireguard™ tanks will in many cases enable shorter building-to-tank and tank-to-property line distances.

By optimizing tankage you minimize working capital

The system is currently designed for a maximum capacity of 65,000 litres (17,000 US gallons) per tank, and each tank can be sectioned into three or even four compartments.
The Chimera Fueling Station is a SYSTEM delivered to your site ready to be installed by a small crew.

From start to finish, your station can be up and running within 3 days, compare that to the 4 to 6 weeks or more required for embedment of underground tanks!

With the Chimera Fueling Station SYSTEM you'll save on time, money and frustration from day one.
System Quality and Maintenance

System Quality

The Chimera Fueling Station System's custom-engineered modules are manufactured and assembled in a controlled environment to strict production control schedules. This ensures on-time delivery to site as well as specific quality control procedures on all fabricated, mechanical and electrical components, to meet the UL 2244 Shop-Assembled Fuel Systems standard.

Maintenance

With the Chimera Fueling Station, performing total system maintenance is vastly simplified. Technicians can see and access all parts and components without having to dig. This feature naturally encourages adherence to a serious maintenance schedule.
System Value

• Your Chimera Fueling Station will retain its value over the years. Inflation related to labor and material cost is a factor; another is the fact that the system can be relocated to another site.

• Also, every Chimera Fueling Station is biofuel-ready and has a lengthy predictable life span. In other words, it’s built to last. For all these reasons and more, qualified Chimera Fueling Station client’s can obtain up to 100% financing: financial institutions see our system for the asset that it is.
Financing can be arranged for purchasers of this competitively priced asset. Initially, the Chimera Fueling Station SYSTEM is less expensive on all fronts than a traditional underground system (the latter is a potential liability for the neighbourhood or leased property). The soft cost related to opening a station is greatly reduced. The costs of soil preparation and environmental testing are limited by the fact that no digging is required – a benefit that becomes even more important if there are complications with soil conditions. You will never have to deal with the unknown cost issue that arises when “it’s time to change those underground tanks”.

The inflation factor guarantees and protects your investment throughout the Chimera Fueling Station lengthy predictable life span, and allows you the benefit of a positive tax depreciation schedule. Intensive testing on fourteen of our stations in the past five years has proven that system operation is foolproof: as expected, no problems whatsoever were reported. That’s not exactly a huge surprise considering the team of open-minded professionals with decades of industry experience who contributed to the creation of the Chimera Fueling Station SYSTEM™.
Frequently Asked Questions

There’s no reason to dig any deeper...
What Is The Tank’s Storage Capacity?

The system is currently designed for a maximum capacity of 65,000 litres (17,000 US gallons) per tank, and each tank can be sectioned into three or even four compartments (the smallest compartment being 15,000 litres/4,000 gallons).

Capacity is where the Chimera Fueling Station SYSTEM really stands out as compared to a conventional underground system.

With intelligent pre-planning, additional capacity can be quickly added without having to close the station – with the Chimera Fueling Station SYSTEM, you don’t have to dig: you have a modular, plug-and-play solution. One philosophy is that the inventory is in the tank truck in the next delivery.
What is the Surface Area Needed to Install a Chimera Fueling Station System?

This is very simple to establish with Chimera Fueling Station SYSTEM’s alternative. Our example uses 65,000-litre (17,000 US gallons) tank module, with individual outside dimensions (including the invisible vehicle impact rail) of 3.65 metres by 12.80 metres (12 feet by 42 feet).

Keeping in mind that modules must be at least one foot apart as required by code, for three tanks – a total capacity of 195,000 litres (51,000 US gallons) – the ground area required is therefore 144 square meters (1,600 square feet). That’s more than reasonable.
Weren’t Those Above-ground Tanks Obnoxious to Look at?

We don’t think so, and neither do our client’s regular customers! In fact, a survey was conducted at various Chimera Fueling Station sites, and we were pleasantly surprised by the answers and comments we received.

Most people questioned – men and women combined – never noticed any differences in appearance or found anything unusual about the Chimera Fueling Station. When they were told it was the tank unit, all seemed surprised, with most saying they thought it was a conventional storage or car-wash facility.
Where is the Chimera Fueling Station SYSTEM Built?

The Chimera Fueling Station is manufactured at a fabrication manufacturer exclusively licensed by Trillium Fueling Systems Limitada. Currently all components of the system are manufactured in Mexico. Under NAFTA there are no tariffs between Canada, United States and Mexico, Under CAFTA there are no tariffs for countries such as Central America, Columbia, Venezuela and the EU etc. Because the system is manufactured in Mexico, all parts are readily accessible to the above mentioned markets. Other plants in the World are being planned.
How Much Does it Cost?

Once we have a specific request detailing size of unit, total fuel capacity required and type of fuel per compartment (three or four fuel types is the maximum suggested) we will assist you the client, with the many component options available, (such as dispensers, various types of electronic control devices, software and the like). These options necessitated by our clients requirements will influence the pricing of any type of installation.

Generally speaking, we can assure you that Chimera Fueling Station’s product will be more economical to purchase and install than any standard underground system. Likewise Chimera Fueling Station will communicate with our licensed manufacturer and formulate the best cost for your specific system.
Can It Be Relocated?

Yes. Another exclusive feature of the Chimera Fueling Station SYSTEM is its modular construction.

This design allows it to be disassembled and relocated to a new location just as easily as it was transported and installed originally.

Several of our systems have already been relocated in response to changing market conditions and the termination of leased sites.
There’s no reason to dig any deeper...
The Fireguard™ tank
The New Generation of fire-rated storage tanks

• the first tank of its design to obtain a UL listing for secondary containment
• secondary containment can be tightness tested on-site with standard testing procedures
• exterior steel wall provides superior weatherability and low-cost maintenance
• unique thermal insulating material encapsulating each internal tank is 75% lighter than concrete
• technology is patented under US Patent #5695089 and #5809650 for “lightweight Double Wall Storage Tank” by the Steel Tank Institute is a UL approved core component for the UL2244 system listing

The only tank that meets all of these standards

• UL 2080 Listed “Fire-Resistant” tank
• UL 2085 Listed “Protected” tank
• Both the Inner and Outer steel tanks are built to UL standard
• Uniform Fire Code UFC – Article 79 as a “Protected Tank”
• UL 2244 Aboveground Flammable Liquid Tank System
• National Fire Protection Association (NFPA) 30 & 30A
• International Fire Code (IFC), 2000 – Chapter 34
• Ballistics protection per UFC Article 79, and per UL2085
• Impact protection per UFC Article 79, and per UL 2085
• California Air Resources Board (CARB) testing requirements for air emissions
• Steel Tank Institute (STI) Standard F941 for Thermally Insulated Aboveground Storage Tanks
**FIREGUARD™ Compliance and Scope**

**COMPLIANCE:** All tanks manufactured by a Fireguard™ Licensee must be built in strict conformance with Fireguard™ Specifications and are to be covered by a limited manufacturer’s warranty. This technology is licensed by Steel Tank Institute and incorporates a third-party Forma Fueling Station licensed manufacturers quality control program and a UL / ULC Listing.

To control quality, STI employs a staff of independent third party quality control inspectors making unannounced visits to plants. This inspection service is mandatory for all Licensees. These inspection services assure that tanks are fabricated in strict accordance with the latest edition of the Fireguard™ Specifications. The STI Board of Directors has the authority to levy penalties for non-compliance with this specification.

**SCOPE:** The Fireguard™ specification covers:

a) a method of thermally insulating an aboveground storage tank for the purpose of providing a two hour fire rating. This design utilizes a double wall steel tank with a monolithic insulation placed into the interstice of the tank. Both the primary and the secondary tank are equipped with emergency vents. It also addresses the inspection, testing and installation of these tanks.

b) a tank assembly that has been fully tested by Underwriters Laboratories in accordance with UL2085 and UL Subject 2080 and has two listings: Protected Secondary Containment Aboveground Tanks for Flammable Liquids and Fire Resistant Secondary Containment Tanks for Flammable Liquids.

c) an interstitial space has been tested to ensure that
   i) fluid will flow and be detectable and
   ii) that the emergency venting will work properly in the event of a pool fire.

d) This tank was tested in accordance with NFPA 30A, 1996 edition, and UFC Appendix A-IIIF-1, 1997.
**BALLISTICS PROTECTION**: A method of tank construction in which the tank system has a tested ability to prevent penetration of a bullet into the primary tank. The ballistics test shall require that the tank be shot five times with a 150 grain (9.72 g) M-2 ball ammunition, having a muzzle velocity of 2700 feet per second (823 meters per second), fired from a .30 caliber rifle at a distance of 100 feet (30.5 meters).

**HOSE STREAM RESISTANT**: A method of tank construction in which the tank system has a tested ability to prevent leakage of the primary tank or damage to the insulation material when the completed tank assembly is impacted with a stream of water for 2 minutes, as per the UFC test criteria, with the purpose of simulating a fire hose. This test shall be conducted immediately after the furnace test.

**IMPACT PROTECTION**: A method of tank construction in which the tank system has a tested ability to prevent leakage of the primary tank if impacted by a vehicle. Testing shall consist of hitting the completed tank assembly with a 12,000 pound (5455 kg) weight moving at 10 m.p.h. (16 kph), 18” (457 mm) off the ground in a one square foot area.

**MONOLITHIC INSULATION**: The insulation material in a Fireguard tank used to minimize heat transfer from the secondary tank to the primary tank. This insulation material is a pourable material consisting of perlite, cement, water and STI ingredient B, or other approved ingredient, all carefully mixed to the correct proportions.

**PROTECTED TANK**: An aboveground atmospheric tank with secondary containment and an insulation system intended to reduce the heat transferred to the primary tank when the tank is exposed to a hydrocarbon pool fire, and provided with protection from physical damage.

**SECONDARY CONTAINMENT ABOVEGROUND TANK**: A primary containment aboveground tank, constructed per UL-142 / ULC S601, contained within a listed steel secondary tank forming an interstitial (annular) space between the primary and secondary tank, which is capable of being monitored for leakage into the space from either the interior or exterior walls.

**TWO HOUR FIRE RATING**: (for storage tanks): A primary tank, which has a tested ability to maintain an internal temperature below a specified limit for two hours.
Benefits of the Modular
All Above-ground
Fueling Station

There’s no reason to dig any deeper...
Benefits of Modular Above ground Gas Station

1. Portability
This entirely above ground, completely modular system can be moved easily from location to location

2. Ease of Installation
From start to finish, Modular Fueling Systems can be installed in as little as 3 days!

3. Environmentally Friendly
Nothing is put underground and your land can actually increase in value!
Eco-Friendly Solution

Changing the nature of fueling stations. Features:
1. Top of the line Fireguard Tank
2. Modular Design
4. Completely portable
There’s no reason to dig any deeper...
Chimera Fueling Station Fueling System

Applications

Large fleets of buses, trucks, marinas, airports, construction sites, etc.
References

- Long canopy with island installation in Ontario, Canada
- Training installation in Mexico
- Typical installation in Ontario
- Hamilton Airport Ontario, Canada
Archive Photos

- Typical Installation
- Installation of canopy
- Unloading of tank truck-vapour recovery effective
- Framing of tank
- Tank truck being unloaded by pumping station
- Fireguard tank insignia after inspection by STI
Visit our website: www.energymaster.ca

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