



Virtual Pipeline

Where distance and demand do not justify an investment in a gas pipeline, the SEC Virtual Pipeline system offers an attractive alternative for end users and gas distribution companies. By combining state-of-the-art technology in natural gas compression and decompression technologies, Galileo has developed a CNG road transport system in order to supply Natural Gas to towns, groups of towns, industries, or CNG stations.

This Virtual Pipeline® fully-module design system allows for the quick, easy and cost effective construction of installations and for their expansion according to increase in demand.

The versatility of the Virtual Pipeline® system is based on 3 state-of-the-art technological undertakings developed by Galileo as follows:

- MICROBOX® / MICROSUID® / BOOSTER® CNG compression modular stations
- Pressure regulating plants
- Modular storage system "MAT®" and natural gas transport system "ST®"

A solution for each application

This exclusive system constitutes a landmark in the Natural Gas distribution and sale business, and put an end to all the limitations in development areas caused by traditional distribution networks.

Applications:

- Natural Gas distribution networks
- Industrial Consumption.
- CNG Daughter Stations.
- Irrigation systems.
- Dryers.
- Breeding facilities.
- Boilers.
- Etc.

System basic advantages

Modularity. The whole system is conceived based on this concept, thus resulting in the following advantages:

Maximization of transported gas

Its modularity, in addition to the exclusive unload management system, maximizes the transported gas use and reduces the operating cost per cubic meter of natural gas.

Scalability

Working with modules allows the system to grow at the pace of demand. Each actual consumption will be matched with an actual MAT number to prevent the system from overload.

Transportability

Through the exclusive "ST" Transport System, modules are easily transported to different consumption points. In addition to the consumptions for which the system is sized, Virtual Pipeline can supply "seasonal consumptions", thus maximizing the return on investment.

Balance between operating and investment costs

Thanks to both its modularity and scalability, this system allows for an optimal sizing to strike a perfect balance between operating and investment costs.



1

Mother Station

A MICROBOX® / MICROSUID®, connected to an existing gas pipeline, compresses the gas within the MAT transport modules. These are placed on platforms called PA-C, especially designed for such purpose. They allow for safe and efficient module refilling and exchange with the Transport System.

2

Loading and Unloading

Upon arrival, the transport trailer exchanges the empty MATs brought from the consumption point for other filled MATs. This exchange is made with very easy-to-operate and especially designed ST machines placed on the trailer. They can be operated by the truck driver. These ST machines minimize module loading and unloading times with the highest safety standards.

3

Transport

The vehicle transports the MAT modules along the road at a speed typical of freight transport, with no need for additional safety systems. MAT modules are linked to the trailer by means of an anchoring system which ensures a safe transport.

4

Household Consumption

Upon arrival at consumption points, the MAT modules are unloaded on especially designed platforms called PA-D. These platforms have a simple and safe connection system which minimizes both loading and unloading times. After going through a regulating plant, the MATs are finally connected to the household supply network.

5

Industrial Consumption

In this application and according to the type of industry to supply, platforms are connected to regulating plants. These are fitted with an exclusive catalytic heater system and have a maximum capacity of 10,000 m³/hour.

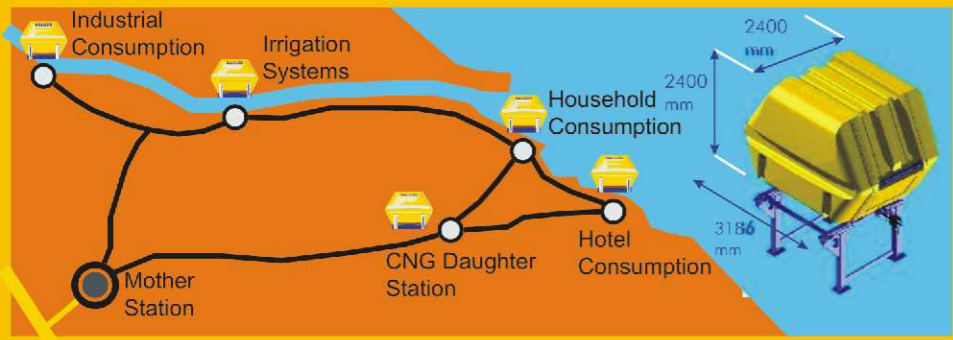
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CNG Daughter Stations

MAT modules are connected to the dispenser through a discharge BOOSTER® and are managed by the Rotate Cascade® system, which maximizes the MAT CNG discharge and minimizes vehicles refueling time. The Galileo-patented Rotate Cascade® system allows for an efficient module use, minimizing both investment and operating costs.



System map



VIRTUAL PIPELINE®

Advantages:

1. Great "flexibility" that maximizes the transported gas usage. No need to wait until all the gas at the consumption point is petered out to change modules (typical situation of the classic tube trailer). With the Virtual Pipeline system only the empty **MAT modules are replaced, thus minimizing transport waiting times.**
2. Thanks to the Rotary Cascade system, 93% of the transported gas is used in CNG Daughter Station and all the customers refill at 200 bar. In traditional systems, no more than 54% of the transported gas is used and a large percentage of vehicles ends up with their refill under 200 bar.
3. In short, the operating costs per m3 of the gas transported through Virtual Pipeline will be lower than any current road gas transport system.
4. As the System includes all the necessary elements, from compression to decompression, Galileo ensures a smooth operation of all the components. Likewise, the customer operates with a single accountable person in order to avoid responsibility overlap.
5. Virtual Pipeline includes the following safety systems:



- **Impact-resistant modules:** by means of an FEA, the modules have been designed so as to resist impacts due to improper operation.
- **Fire and explosion-proof system:** the MAT modules include an exclusive explosion-proof system which ensures safe transport.
- **Linking system joined to module chassis:** it ensures that the modules are properly fastened to the trailer during transport.
- **Telecontrol System:** Virtual Pipeline includes a SCADA system in order to monitor its proper operation. This helps to know the online status of all the safety variables and systems which make up the system.

While there are several Natural Gas transport systems, Virtual Pipeline differentiates itself from other systems available in the market.



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