CUBOGAS®, the best way to deliver clean CNG in your vehicle
COMPANY PROFILE
M.T.M. S.r.l., Italian company headquartered in Cherasco (CN), owner of the BRC Gas Equipment trademark, is among the world leading supplier of clean alternative fuel system for converting vehicles from petrol to LPG and CNG.

Established in 1977, M.T.M. S.r.l. has grown rapidly to become one of the major companies in the world and offers today a complete product range, including CNG refueling solutions.

This growth has been possible because M.T.M. S.r.l. always believed and invested in “clean green fuels” which provide significant savings, produce fewer emissions and meet the global need of energy independence.

With its different brand BRC Compressors®, BRC FuelMaker® and CUBOGAS®, M.T.M. S.r.l. is able to meet individual needs of client offering a whole range of solutions and advanced technology for CNG refueling appliances and filling stations.

CUBOGAS signed the CNG history.

More than 50 years of experience and 2,000 CNG refueling stations operating around the world, make CUBOGAS a product reference in the field.

The CUBOGAS engineering team is daily working to design new advanced solutions that allows the company to satisfy all new demands coming from this growing market.

The CUBOGAS mission is to grant the best in terms of Technology, Quality, Service and Customer Satisfaction.
Unmatched production capability with:
• more than 150 compressors per month
• more than 25 complete CUBOGAS® per month

We can assure a flexible capability to match demanding schedules.

Our Manufacturing Process is based on a Lean thinking:
• think “Flow” and “Value Added”
• 100% work on live customer orders
• manufacturing Engineering working on supply chain
• 100% participation in continuous improvement

Three product assembly lines are present in our Dresser Cubogas Facility Plant in Talamona for the assembly of:
• Compressors
• CUBOGAS®
• Storages

One of the values of the assembly lines is its versatility: simple layout, but with a high product capability.
The heart of our CUBOGAS® units is our highly efficient and innovative reciprocating compressor

- INNOVATIVE DESIGN: reciprocating compressor designed on API 618 standards
- NO PRESSURIZED CRANKCASE: can be tailored in safety for all suction pressure ranges between 0,1 and 200 bar (g)
- VERTICAL DESIGN: requires a small space for installation and offer an easier and quick access for maintenance
- DRY LUBRICATED CYLINDERS: this reduces costs and contamination risks, with negligible presence of oil on the gas outlet
- CONSERVATIVE ROTATIONAL SPEED: for safer and smoother operations and higher reliability of components whose life depends on cycles: this means also a lower maintenance costs
- LONG PISTON STROKE and LIQUID COOLED CYLINDERS: for long life of sealing elements
- EQUIPPED WITH CROSSHEADS: for higher reliability and less wear
- FORCED LUBRICATION: for sleeve bearings of crankshaft and connecting rod
- OPTIMUM BALANCE: thanks to the counterbalance shafts mounted on the frame
- NO ENERGY WASTE: no need of any inlet reduction valve
- OWNERSHIP: we are the responsible for the complete package production process: design, manufacture, assembly, packaging and testing
- ENGINEERING AND KNOW HOW: complete engineering process of our units for both compressor and balance of plant
MODULAR TECHNOLOGY

Our ongoing research efforts to improve the performance in terms of reliability and standardization, led to the development of a compressor which is based on the principle of “modularity,” while maintaining unchanged the design principles of the compressor that as always been used.

The modular construction of CUBOGAS reciprocating compressors is based on the use of standardized, well proven components. Our compressors are designed and manufactured to deliver products with the highest level of performance, reliability and availability.

The success of the new generation of CUBOGAS reciprocating compressors is the result of constant technological innovation and unmatched experience of our Team: expertise, innovation, diversity, quality, reliability and dedication to our valued customers are reasons why CUBOGAS is recognized as a leader in this industry.

This type of compressors foresees always the use of same modules, providing greater internal flexibility, which translates into a better response in terms of delivery time and after-sales.
CUBOGAS SERIES 2A

Suitable for applications up to 110 kW of power and suction pressures from 0,1 to 100 bar (g), the series CUBOGAS 2A is the best choice for public or private stations for fast or slow refueling of light vehicles. It’s available in two versions:

**HT version**, that can also be called “plug & play” as it is fully set up with all the accessories needed for the functioning of the compressor system (power and control panel, air compressor, storage with priority panel, filtering system and gas measurement); with this version you can significantly reduce the time and cost of installation and thanks to its compact size it is particularly suitable in those cases where a minimum space is required at the station;

**DB version**, which is particularly suitable for those applications where the size and location of storage are not compatible with a “built in” solution; being a version without internal storage, its dimensions are more compact than the HT version;

Both versions can be supplied in an “S” configuration that includes sound / weather proof canopy and a “P” configuration in which the compressor system is completely set up on a skid with no canopy, so it can be installed inside a building or under a protective roof.
CUBOGAS® SERIES 2B
CUBOGAS SERIES 2B

Suitable for applications up to 250 kW of power and suction pressures from 0,1 to 70 bar (g), the series CUBOGAS 2B is the best choice for public or private stations for fast or slow refueling of heavy vehicles (trucks, buses, etc) or for “mother” stations. It’s available in two versions:

**HT version**, that can also be called “plug & play” as it is fully set up with all the accessories needed for the functioning of the compressor system (power and control panel, storage with priority panel, filtering system and gas measurement); with this version you can significantly reduce the time and cost of installation and thanks to its compact size it is particularly suitable in those cases where a minimum space is required at the station;

**DB version**, which is particularly suitable for those applications where the size and location of storage are not compatible with a “built in” solution; being a version without internal storage, its dimensions are more compact than the HT version;

Both versions can be supplied in an “S” configuration that includes sound / weather proof canopy and a “P” configuration in which the compressor system is completely set up on a skid with no canopy, so it can be installed inside a building or under a protective roof.
CUBOGAS SERIES 4B
Suitable for applications up to 600 kW of power and suction pressures from 0.1 to 70 bar (g), the series CUBOGAS 4B is the best choice for “mother” stations and mixed “mothers” /refueling and light vehicles stations and in all those applications where high performance are required.

Due to this type of use only the DB version (without internal storage) is available.

It can be supplied in an “S” configuration that includes sound / weather proof canopy and a “P” configuration in which the compressor system is completely set up on a skid with no canopy, so it can be installed inside a building or under a protective roof.
CUBOGAS SERIES 1B

Suitable for applications up to 110 kW of power and suction pressures from 20 to 200 bar (g), the series CUBOGAS 1B is the best choice for “daughter” stations.

This CUBOGAS is the maximum in terms of energy efficiency as it is able to work within the entire range of suction pressure, without reducing the inlet pressure which could represents a loss of energy.

This type of CUBOGAS is particularly suitable even for vehicles refueling stations powered by pipeline with a pressure greater than 30 bar (g).

It’s available only in the DB version, without internal storage.

It can be supplied in an “S” configuration that includes sound / weather proof canopy and a “P” configuration in which the compressor system is completely set up on a skid with no canopy, so it can be installed inside a building or under a protective roof.
CUBOGAS® GAS ENGINE DRIVEN
CUBOGAS GAS ENGINE DRIVEN

In the event that the availability of electrical power in the stations is not enough for a specific application, the CUBOGAS 2B and 4B version can be supplied with gas engine as prime driven with power values up to 250 kW and 600 kW.

It’s available only in the DB version (without internal storage) and in an “S” configuration, that includes sound / weather proof canopy.
GLOBAL STAR DISPENSERS, VARIOUS MODELS CREATED FOR YOUR NEEDS
CUBOGAS is supplied with Wayne dispensers global star CNG and global star multiproduct.

GLOBAL STAR CNG DISPENSER
The Global Star CNG dispenser features a high profile cabinet built to withstand even harsh forecourt conditions while maintaining its attractive appearance.
Single and dual-hose models are offered for this dispenser: it’s flexible hoses are located in the internal frame in order to reduce wearing. It’s available in a single or dual lane and in high and low speed configuration: it can also be set from one to three pressure levels.
It’s equipped with ergonomically mounted nozzle holsters and available with variety of nozzle configurations, including NGV1, NGV2 and others suitable for specific country usage.

GLOBAL STAR CNG DISPENSER
The Global Star Multiproduct dispenser represent the best choice for a modern multi fuel station: it can fill up to five different fuels, conventional liquid fuels and CNG. This dispenser perfectly satisfies the growing demand for alternative and ecological fuels: its ergonomic shape is elegant and attractive as well as practical and compact.
CNG STORAGE
In order to have a complete portfolio of CNG products, a manufacturing line is
totally dedicated to the production and testing of CNG storages. The CNG storage
have a Design Pressure of 300 bar (g) and are 100% hydrostatically tested. Each
pack can hold up to a maximum of 18 cylinders of 80 liters each and are available
in two versions:

- with separated inlet and outlet of the gas in the cylinder
- with a isolation valve that includes a pressure rupture disc and a thermal fuse
disc, mounted on each cylinder

The cylinders are mounted vertically in order to ensure the proper drainage and
reduce the size of the package.

Dresser Wayne CNG storages are PED Certified and the certification is guaran-
teed by the surveillance of the notified body.
CERTIFICATIONS, QUALITY AND PRODUCT TEST
CUBOGAS's vision for quality is to consistently deliver quality solutions through defined processes focused on improving customer satisfaction. We provide CNG equipment, technology, services and solutions which are designed, manufactured and serviced to fully comply with all relevant regulatory, legal and safety requirements.

All of our CUBOGAS products receive full speed & full load performance test in our unique test bench. Our test bench as the possibility to perform simultaneously: two compressors running test and two full load tests for package and dispensers.

In carrying out these and other tests CUBOGAS customers can take advantage of some of the largest and most complete testing facilities in the CNG industry.

Safety, standards & certifications: safety is one of the main keys, all our units fulfill the most stringent international safety standards and each unit is 100% load tested with natural gas before delivery.

To achieve and maintain the highest technological and quality level of our products, all design procurement, manufacturing and testing activities are carried out in accordance with our quality system based on the ISO 9001.

Our CUBOGAS and storage units are PED 97/23/EC certified; the PED certification is guaranteed by the surveillance of a notified body.

The CE marking of the CUBOGAS assures the product conformity to the applicable European directives, as:

- 2006/42/EC
- 97/23/EC
- 94/9/EC
NEW TECHNOLOGY

**Compressor**

<table>
<thead>
<tr>
<th>Inlet Pressure</th>
<th>6.9 bar</th>
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<tbody>
<tr>
<td>1° Stage</td>
<td>56 °C</td>
</tr>
<tr>
<td>2° Stage</td>
<td>80 °C</td>
</tr>
<tr>
<td>3° Stage</td>
<td>51 °C</td>
</tr>
<tr>
<td>4° Stage</td>
<td>65 °C</td>
</tr>
<tr>
<td>Oil</td>
<td>37 °C</td>
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<tr>
<td>Water</td>
<td>40 °C</td>
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</table>

**Discharge**

<table>
<thead>
<tr>
<th>Discharge</th>
<th>21 °C</th>
<th>9 bar</th>
</tr>
</thead>
</table>

**Storage High**

| Storage High | 238 bar |

**Storage Medium**

| Storage Medium | 185 bar |

**Distribution High**

| Distribution High | 226 bar |

**Detected gas**

| Detected gas | 1 % |

**Diagram:**

- Gas cooler
- Canopy fan motor
- Closed
- Opened
- HP
- MP

**Buttons:**

- Information
- Gas Detector
- Timers
- Temperatures
- Pressure
CUBOGAS INTELLIGENT CONTROLLER
The most important advantages compared to a PLC are:
• high immunity to electromagnetic interference
• temperature operation range extended
• flat design for DIN rail or cabinet door installation
• modular software architecture to improve application stability and ease customization
• complete integration with the SMS supervision system
• complete integration with intelligent analog barriers
• possibility of interaction with additional devices by Modbus protocol
• internal events and maintenance information storage for later analysis

SMS: SUPERVISOR MANAGEMENT SYSTEM
The SMS system allows to monitor and control the entire gas station, both locally and remotely.

Having Internet access and a navigation device, from a PC to a smartphone, it is possible to connect to the system: in addition, has provided a mechanism for signaling by e-mail and SMS to alert customers it faults occur during all phases of gas station operations, from the compression to the distribution.

Thanks to the presence of an internal database, it is possible to make a plant diagnostic based on an history data analysis of all the basic parameters obtained: this also permits the best scheduled plant performance.

If the CNG station has more compressor units, the system can be equipped with the SMS package Start Manager that, by analyzing the status of the compressors and dispensers, it is able to optimize plant energy consumption.
OUR CNG STATIONS: A WORLD WIDE SUCCESS