

# Pressure reducing and metering stations



**CPL Concordia**  
ENERGIA CHE MIGLIORA LA VITA

## CPL Concordia A solid partner for gas infrastructure

### OVER A CENTURY OF EXPERIENCE

CPL Concordia is an Italian cooperative with a **history dating back to 1899**. For over a century, we have been designing, building, and managing energy systems, combining industrial strength, technical expertise, and innovation.

### A SOLID AND WIDESPREAD STRUCTURE

Today, we have **over 1,600 employees** spread across 10 national offices, with strong local roots throughout Italy and our historic headquarters in Concordia sulla Secchia (MO). This organized structure guarantees **reliability, operational continuity, and direct project oversight**.

### INTEGRATED EXPERTISE FOR COMPLEX SYSTEMS

Our activities range from gas and water distribution to heat management, from facility management to public lighting, from cogeneration to digital services for utilities. **An integrated approach that allows us to address critical infrastructures with a comprehensive and coordinated vision.**

### PEOPLE AT THE CENTER

We base our growth on the value of people by promoting regulated, safe, and rewarding work. We invest in ongoing training and skills development. **Our commitment to quality, safety, environmental protection, and human rights** is supported by certified systems and periodic audits, in a process of continuous improvement and transparency towards stakeholders.



Value of production

**342MLN\***

EBITDA

**31,1MLN\***  
equal to 9,1%

**688\***  
owners

**1.645\***  
employed

**We are your reliable partner for the gas sector, from design to commissioning**

Updated to December 2024

## PRESSURE REDUCING AND METERING STATIONS

### Complete systems for pressure reduction and gas measurement

Natural gas is transported through high-pressure pipelines, while end users require it at significantly lower pressures.

For this reason, decompression and measurement stations are used: treatment systems designed to reduce, regulate, and control gas pressure, while ensuring safety, operational continuity, and precision.

These systems typically consist of the following functional blocks, integrated and configurable according to the application:  
Filtration – Preheating – Reduction – Measurement – Odorization

## CPL CONCORDIA: A single partner for the entire station

We design, integrate, and build all the functional blocks of a decompression and measurement station, offering clients a single point of contact

for the entire life cycle of the system. From process definition to detailed design, from equipment construction to on-site assembly and installation, each phase is managed internally according to high standards of quality, safety, and regulatory compliance. An integrated model that ensures design consistency, direct control of activities, and operational reliability over time.



## Dedicated technical office - Internal engineering at the service of the system

We have a **technical office specializing in gas treatment**, staffed by professionals with multidisciplinary expertise in process, mechanical, electrical, and civil engineering.

The team expertly manages the entire project development process, from the preliminary analysis phase to the final design of the system, ensuring reliable, regulatory-compliant solutions that fully meet the client's needs.

To support the design process, we use cutting-edge software dedicated to each phase of the project:

- **Microsoft Project for planning and time management**
- **ESAPRO for mechanical design**
- **BIM methodology, introduced in 2024 via CDE CIRCLE (4DAYS), for structured and collaborative management of project information**



## From design to construction - our workshop

Each project is handled with the utmost precision throughout its phases, from the preliminary inspection to on-site construction and installation.

After design, the order is transferred to **our in-house workshop, which spans 4,600 m<sup>2</sup>**, where **production activities are managed and tracked via the Piping app, ensuring control and traceability.**

All parts are manufactured and assembled in-house and, where applicable, mounted on metal frames, optimizing time, quality, and safety during on-site activities.

CPL Concordia is also able to design and supply U-STAMP-certified equipment, confirming its high level of technical expertise and quality.

## FILTRATION

### The first barrier to ensuring reliability, operational continuity, and long life of the system

These are normally used in natural gas pressure reduction station to protect heat exchangers, reduction valves, and metering systems when the gas flow drags solid particles (dry gas). The filter body can be made of either carbon steel or austenitic steel. The filter element, which is made from polyester felt, can reach a filtration level of up to 5 microns.

**CPL Concordia solutions are designed to ensure: high separation efficiency, low pressure drops, ease of maintenance, and long operating life.**

Reference standard:  
ASME VIII dir. 1, EN 13445, PED 97/23/ EC, ASME U-STAMP.  
Pressure class: from PN16 to ANSI 2500.



## PREHEATING

### Gas thermal control for reliable performance

Natural gas preheating systems serve to prevent the formation of hydrates during the pressure reduction phase and to guarantee the minimum temperature required for use. Preheating is a fundamental element for the safety and continuity of the system's operation, particularly in the presence of significant pressure reductions or critical environmental conditions.

**CPL Concordia designs preheating systems that are reliable, efficient, and compliant with major international standards.**

Reference standard: ASME VIII dir. 1, EN 13445, PED 97/23/EC, ASME U-STAMP, TEMA, API 12K.  
Pressure class: from ANSI 300 to ANSI 2500.



## METERING

### Certified precision

Flow measurement is a critical step in decompression stations: it ensures flow control, safety, and fiscal gas management.

**We design and build complete and scalable measurement systems, integrating all necessary components: from flow meters to conversion and gas quality analysis instruments.**

Thanks to our experience, we can offer:

- Volumetric, turbine, rotary, ultrasonic, venturi, orifice flow meters
- Advanced conversion systems and flow computers
- H<sub>2</sub>S, humidity, density, and calorimeter analyzers
- Customized solutions for fiscal, operational, or network needs

Main reference standards: AGA3, AGA7, AGA8, AGA9, ISO5167, ISO6974, ISO 6976, ISO17089.



## REDUCTION

### Precise pressure control for safety and stability

The pressure reduction phase constitutes the heart of the pressure reducing stations. CPL CONCORDIA installs direct acting and pilot operated valves up to the operating pressure of 250 barg. Various combinations of safety devices are available to meet every regulatory requirement. Each solution is custom-designed to ensure: downstream pressure stability, rapid response, and maximum operational safety.

Reference standard:  
EN 334, PED 97/23/EC.

Pressure class:  
from ANSI 300  
to ANSI 2500.



## ODORIZATION

### Controlled safety, guaranteed continuity

Odorization systems impart a distinctive odor to naturally odorless natural gas, allowing leaks to be quickly identified, ensuring the safety of people and networks. **CPL Concordia designs and manufactures complete odorization systems that can be integrated into decompression and metering stations, offering reliable solutions tailored to the plant's actual operational needs.**

#### LAPPING ODORIZATION

Concordia overflow odorization systems exploit the low vapor pressure of the odorant liquid. A controlled restriction in the main flow generates a secondary flow of gas that overflows the liquid surface, carrying a proportional amount of odorant downstream.



Reference standard: ASME VIII dir. 1, PED 97/23/CE, ASME U-STAMP, EN 13445.

**The solutions are based on variable-capacity tanks, designed and assembled in-house, made from materials compatible with THT and mercaptans, and equipped with accessories that facilitate management and maintenance.**

A simple, robust, and proven solution, suitable for applications with stable operating conditions.

#### CONTROLLED INJECTION ODORIZATION

For applications requiring **maximum precision and continuity of service, CPL Concordia has developed the EASYDOR 2 injection odorization system.**

The system ensures a constant odorization rate, independent of variations in flow rate, pressure, and odorant level. The control unit receives the gas measurement signal and automatically controls the dosing pump, ensuring precise and controlled injection.

#### Advantages

- High precision
- Easy calibration and adjustment
- User-friendly interface
- Continuity of service through redundant solutions and automatic switching

**EASYDOR 2** is available in various configurations and can also be installed in explosive areas.

#### REMOTE MONITORING AND CONTROL OF ODORIZATION

To complete the offering, CPL Concordia offers remote **monitoring systems for odorization rates**, which allow for continuous network monitoring, data recording, and automatic alerts, reducing manual on-site verification.



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