

The background of the entire page is a complex, abstract geometric pattern of dark blue and black faceted shapes, resembling a crystalline or metallic structure. A solid blue rectangular box is overlaid on the left side of the page, containing the main text.

# COMPRESSORS APPLICATION

*Your needs, our ideas*



# COMPRESSOR TECHNOLOGY

Compressors play a crucial role in **modern industry**, enabling the generation and control of compressed air as well as the operation of refrigeration systems. Reliable components are essential to ensure **efficiency, safety and long-term performance** in these demanding environments.



## COMPRESSED AIR SYSTEMS

Industrial compressed air systems **generate and distribute pressurized air used to power machines**, automation equipment and production processes. From compression to air treatment and condensate management, system reliability depends on precise and durable components.



## REFRIGERATION

Refrigeration compressors operate within **closed thermodynamic cycles to transfer heat and maintain controlled temperatures**. Stable operation of the compressor and proper fluid management are essential to guarantee efficiency and system durability.

## WHY COMPONENT QUALITY MATTERS

Our components are designed to support compressor systems with reliable control, durability and operational stability.

Key benefits include:

- **Precise fluid control** within compressor assemblies
- **Improved system reliability** in demanding industrial environments
- **Efficient condensate management** in compressed air systems
- **Long service life** thanks to robust materials and proven technologies



# SMART MONITORING FOR COMPRESSOR SYSTEMS

**Compressed air systems** represent a significant share of industrial **energy consumption**. Monitoring key operating parameters is essential to **improve efficiency, reduce waste and ensure reliable system performance**.

Through connected **electronic components** and **cloud-based platforms**, compressor systems can be monitored in real time, providing valuable insights for maintenance and energy optimization.

## TURN DATA INTO PERFORMANCE

KEY DATA AVAILABLE THROUGH CLOUD MONITORING



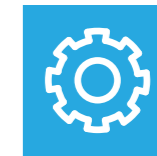
**SYSTEM PERFORMANCE**



**ENERGY MONITORING**



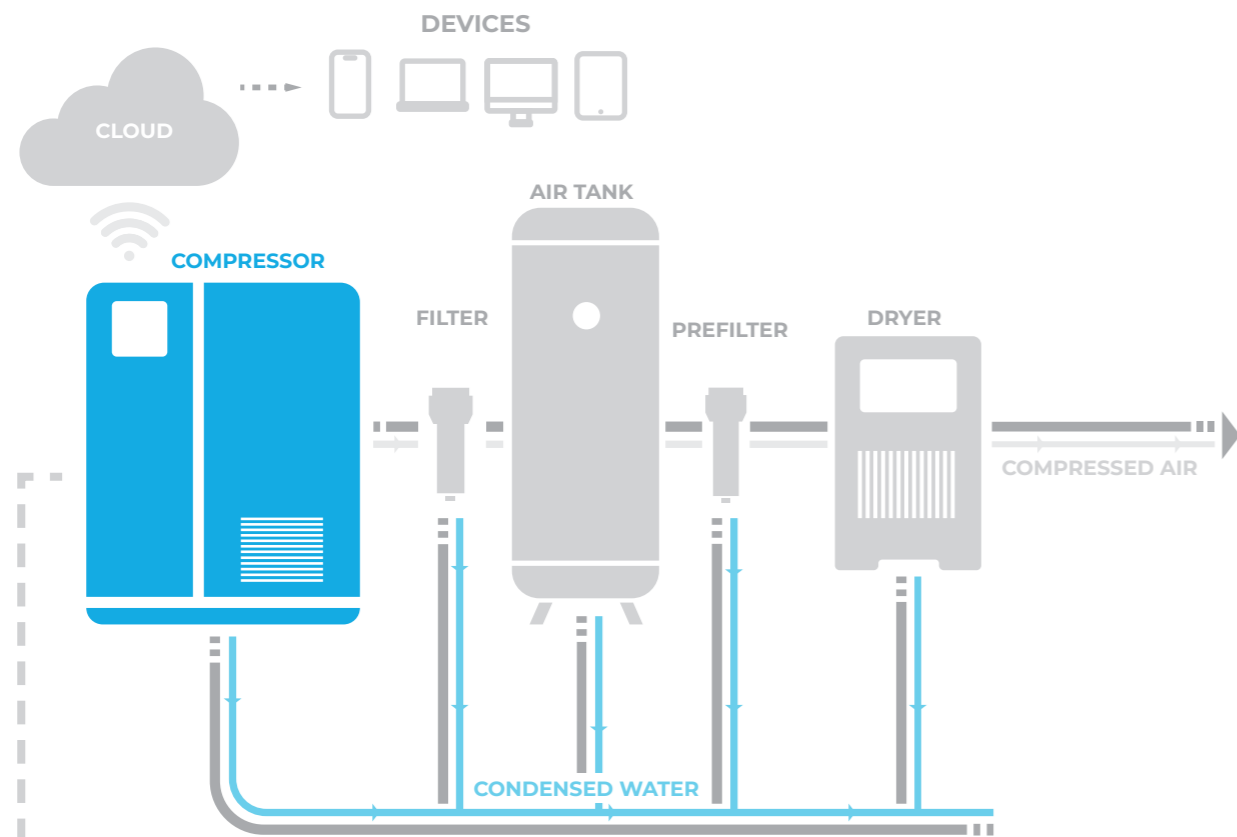
**AIR QUALITY**



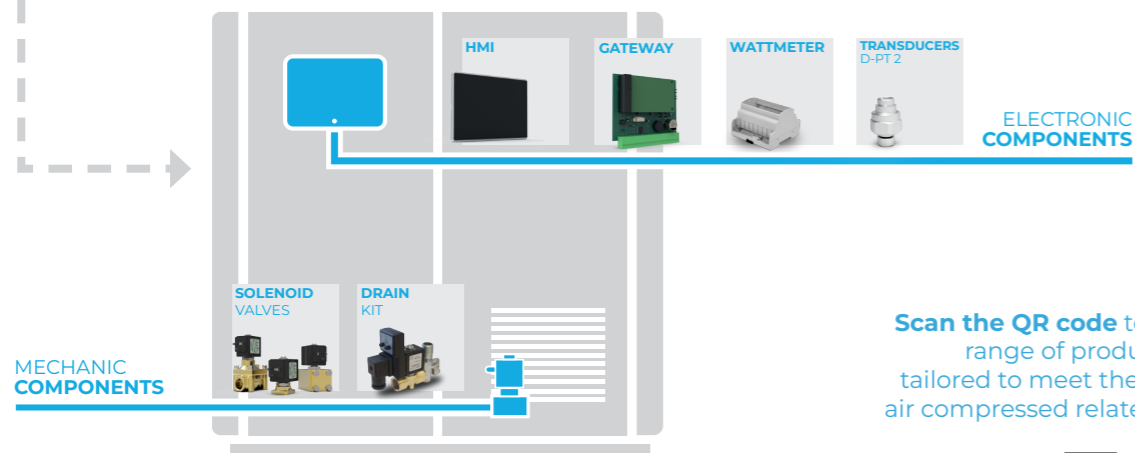
**MAINTENANCE INDICATORS**

- **SYSTEM PERFORMANCE:** Pressure levels, Temperature of critical components, Compressor operating status, Running hours
- **ENERGY MONITORING:** Electrical power consumption, Compressor load cycles, Energy efficiency indicators
- **AIR QUALITY:** Air pressure stability, Humidity levels, Operating conditions of the compressor environment
- **MAINTENANCE INDICATORS:** System alerts and anomalies, Performance trends over time, Preventive maintenance insights

# COMPRESSED AIR SYSTEM



## COMPRESSOR DETAIL



Scan the QR code to explore the range of products available tailored to meet the demands of air compressed related industries.



## AN OPEN SYSTEM

Compressed air systems are widely used in **industrial environments** to **power machines, automation equipment** and **production processes**. Air is compressed, stored and treated before being distributed through the network to support a wide range of applications.

Because compressors represent one of the most energy-intensive components of industrial plants, **monitoring system performance is essential to ensure efficiency**, reliability and operational continuity.

## IOT MONITORING SYSTEM

The **IoT system** is designed to **collect, monitor and analyse electrical and environmental** data through a network of smart devices.

At the core of the system is the DConnect Meter, a gateway that connects field devices with the cloud platform. It collects key operational data such as:

- Instant power consumption
- Energy usage
- System pressure
- Machine alarms
- Operating hours

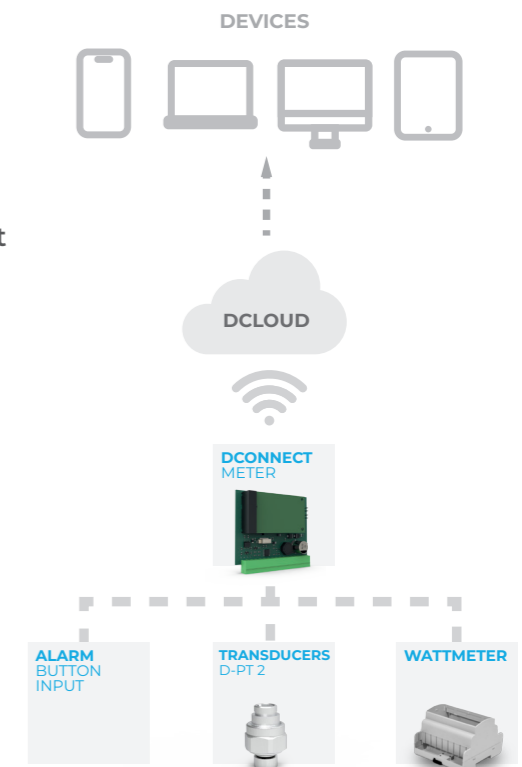
The data is then transmitted to DCloud, where it can be visualized and analysed to detect anomalies and enable predictive maintenance.

## FROM COMPRESSOR TO CLOUD

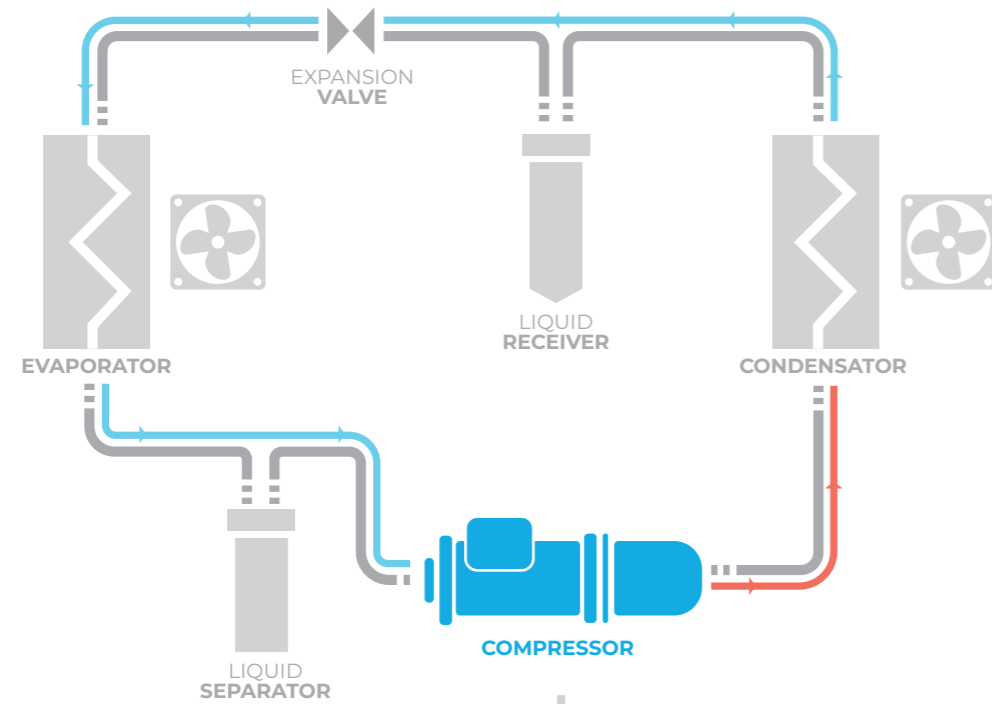
Connected devices collect operational data from the compressor and **transmit it to the cloud** for monitoring and analysis.

Compressed air systems can **account for up to 10% of industrial electricity consumption**.

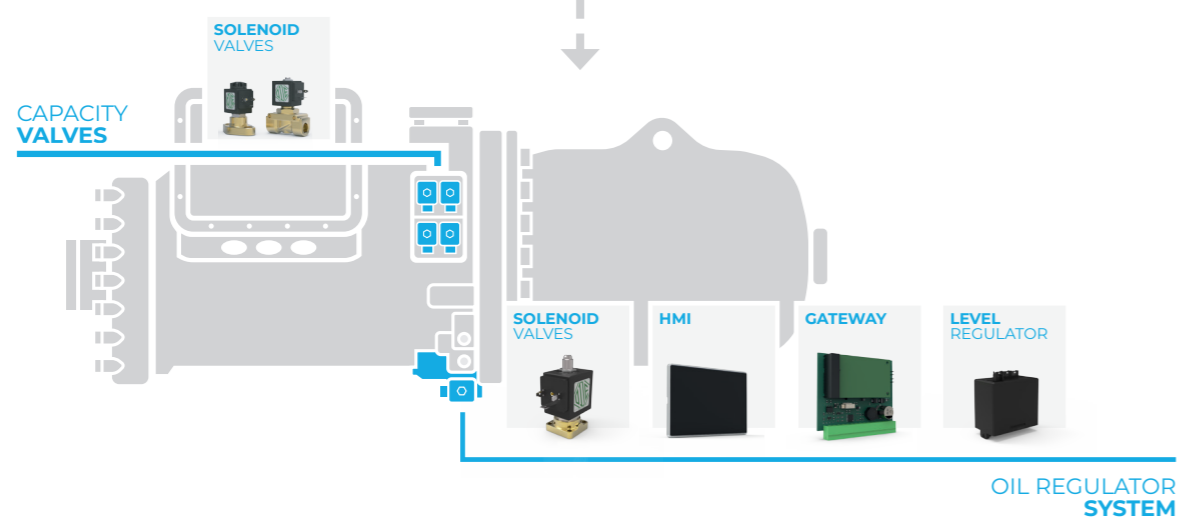
Monitoring data helps identify inefficiencies and optimize system performance.



# REFRIGERATION GAS SYSTEM



## COMPRESSOR DETAIL



Scan the QR code to explore the range of products available tailored to meet the demands of refrigeration related industries.



## A CLOSED LOOP SYSTEM

A refrigeration system operates through a **closed thermodynamic cycle** where the refrigerant continuously circulates inside the system.

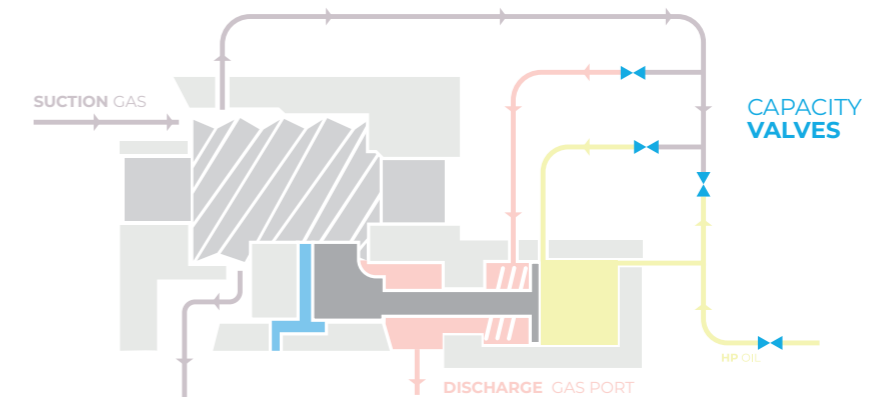
Through compression, condensation, expansion and evaporation, the refrigerant absorbs heat from the environment and releases it outside, enabling controlled cooling in industrial and HVAC applications.

## OUR COMPONENTS

Our solenoid valves are installed in key areas of the **compressor assembly** and in the **oil management system**, ensuring stable operation and efficient control of the refrigeration cycle.

### ■ SOLENOID VALVES FOR COMPRESSORS

Used for capacity control and compressor operation management, allowing precise regulation of refrigerant flow and compressor performance.



### ■ SOLENOID VALVES FOR OIL LEVEL REGULATORS

Installed on the oil level regulator, **they support the correct management of oil distribution in the compressor**, ensuring proper lubrication and long-term reliability.

# PRODUCTS FOR COMPRESSORS APPLICATIONS



## SOLENOID VALVES

We offer a wide range of **2-way and 3-way solenoid valves**, suitable for compressed air as well as refrigerants, oil, and gas applications. Designed for medium to high-pressure systems, our valves ensure reliability and performance across various industrial uses.



## DRAIN KIT

Drain Kit with **2/2 way normally closed direct-acting solenoid valve**, designed for automatic condensate drainage in compressed air systems. Supplied with timer, connector, and tap, it operates without minimum pressure requirements. High-quality materials and rigorous testing ensure maximum reliability and long service life.



## PRESSURE TRANSDUCERS

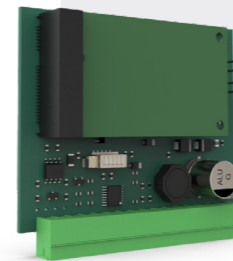
The **D-PT 2 pressure transducer generates an output signal proportional** to the input pressure. It measures common fluids such as air, inert gases, and water using a 96%  $Al_2O_3$  ceramic sensing element. With operating temperatures ranging from  $-40^{\circ}C$  to  $+125^{\circ}C$ , the integrated digital electronics provide offset and span correction, ensuring improved long-term stability. The device complies with Electromagnetic Compatibility (EMC) requirements.



## HMI

The **DTouch** line offers flexible and scalable HMI solutions optimized for different display sizes and graphical needs. CEME Group provides...

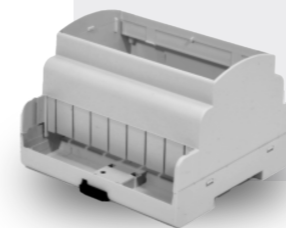
When combined with the IoT technology, HMIs can take full advantage of the DConnect modules' capabilities.



## GATEWAY

**DConnect Meter** is a gateway designed to meet a wide range of DTI market needs. It is powered by an ESP32-S3 microcontroller and can operate in two modes:

- **Gateway mode:** converts RS485 to WiFi/LTE CAT1, NB, or CAT-M, sending data to DCloud (DTI cloud) or AWS.
- **Standalone mode:** processes multiple signals and transmits data directly to the Cloud.



## WATTMETER

**DIN rail wattmeter** available in single-phase or three-phase versions, with a **nominal current of 15 A or 25 A rms** and bidirectional energy measurement. It ensures a minimum 3 kV port/interface isolation and operates with an interface supply voltage range of 10.8 to 13.2 V. The device features RS485 Modbus communication and a compact mechanical design (104 × 86 × 58 mm), suitable for DIN rail mounting.



## LEVEL REGULATOR

Lightweight and compact, **it manages the loading function** that regulates and monitors the correct level inside the oil regulator system. It is a critical component used to ensure proper lubrication and reliable operation, with the primary function of continuously check and maintain the level within the compressor crankcase.

# GENERAL INFORMATION

**CEME Group** and its Brands, with extensive experience in the industrial sector and constant technological research and innovation have propelled CEME Group to a leading position in the development of solenoid valves and other valves and solutions for the fluid control.

Our product range has been meticulously crafted in accordance with our founding principles: quality, flexibility, and reliability. With a blend of tradition, experience, and innovation, we stand prepared for the challenges and opportunities of tomorrow.

WE ARE READY FOR THE FUTURE.

**CEME** offers a wide range of certified solenoid valves for critical fluid control applications and is a reference for many markets such as coffee, home appliances, Sanitary, beverage, HVAC, Medical, automotive and industrial.

**ULKA** is the undisputed market and technology leader for solenoid pumps. ULKA pumps are setting the standards for all the major brands of coffee machines and many other critical applications, in the beverage, HVAC and medical.

Since 1960 **ODE** has been providing customized designs and production of solenoid valves for manufacturers and system integrators following our fundamental principles of quality, adaptability and reliability.

**ACL** is manufacturing a wide range of solenoid valves in different versions since 1987. ACL's expertise is testified by the large number of customers worldwide, which are acting in

all the industrial fields where the control of fluid is necessary.

**PROCON** provides new pumps to manufacturers and end users for systems that require transferring clean liquids at pressures up to 17 bar and flows up to 41 liters per minute. Furthermore, PROCON and its products are highly responsive to our customers' changing requirements.

**MICROPUMP** specializes in OEM and industrial pump applications where precise fluid control is required, offering standard models, configure-to-order options and customized solutions. Partnering with a global network of distributors and with sales offices in Europe and Asia, MICROPUMP provides comprehensive support, expertise and product availability.

Since 2024, **DTI** has become part of CEME Group, the global leader in the production of pumps and solenoid valves. This partnership integrates DTI's technological innovation into a solid industrial organization with over 50 years of experience, creating a true "House of Brands" capable of delivering tailored solutions for the most demanding markets.

 CEME

 ULKA

 ODE

 ACL

 MICROPUMP

 PROCON

 DTI

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