



## CASTEL GO GREEN: PRODUCT LINE DEDICATED TO CO<sub>2</sub> APPLICATIONS

Environmental concerns about the potential direct emissions from refrigeration systems based on synthetic fluids and EU legislation are driving the market towards higher efficiency and lower greenhouse gas emissions.

As a green alternative, one possible solution to this demand could be achieved with Carbon Dioxide (CO<sub>2</sub>; R744), due to its good thermodynamic performance, none-inflammable and not toxic characteristics.

From an environmental point of view, CO<sub>2</sub> is very attractive since it has a GWP of 1 and an ODP of zero, becoming an increasingly present refrigerant and seeing its use in an increasing number of installations.

For an efficient CO<sub>2</sub> performance, high operating pressures are required.

For example, during the shutdown of the system, the ambient temperature can reach and exceed the critical temperature, consequently the pressure can exceed the critical pressure.

The specific properties of CO<sub>2</sub> require technical changes in the design of the refrigeration system.

Castel offers a complete range of products, called **GO GREEN** line, specifically designed, tested and produced to be suitable with the characteristic of CO<sub>2</sub> systems and their refrigerant working pressures.

Green, efficiency and cost reduction are focusing the research, unlike most other refrigerants, for different application solutions. In practice CO<sub>2</sub> in the market is applied in the following refrigerant cycles:

- Subcritical (cascade systems).
- Transcritical (CO<sub>2</sub>- only systems).
- Secondary fluid (CO<sub>2</sub> used as heat transfer fluid).

The technology applied depends on the application and location area of the installation.

CO<sub>2</sub> installations are already largely used today in:

Industrial refrigeration.

Food and retail refrigeration.

Industrial and commercial air conditioning plants.

Heat pumps.

Transport refrigeration.



### GO GREEN

Castel products are designed for installation in refrigeration systems, which use the refrigerant fluid R744 using the best technology to achieve the maximum pressure in the appropriate technology.

**PS = 60 bar** copper connections equipped, for subcritical systems.

**PS = 80 bar** copper connections equipped, for transcritical systems low pressure side and medium pressure side.

**PS = 130 bar** reinforced copper connections (K65) equipped, for transcritical systems high pressure side.

**PS = 140 bar** stainless steel connections equipped for transcritical systems high pressure side.

*Download the 2020 General Catalogue from our web site: [castel.it](http://castel.it) to see our complete CO<sub>2</sub> product range of: ball valves, solenoid valves, safety valves, check valves, filters, strainers, and more and more!*