

DISCOVERY MY CHAMBERS FOR T AND RH TESTS WITH TRANSCRITICAL CO2 COOLING SYSTEM

A revolutionary product that combines innovation, efficiency, sustainability and safety.

Compared with -40° F-GAS versions, ACS CO2 TRC chambers offer big advantages:



- **Lower temperatures:** minimum temperatures down to -50°C , depending on the model, exceeding the performance of previous versions.
- **Improved cooling gradients:** faster below -20°C , ensuring higher efficiency in cooling processes.
- **Energy efficiency:** reduced energy consumption up to 15% average, depending on the type of test.
- **Safety: CO2 is non-flammable**, eliminating the need for risk analysis or installation site adaptations required for flammable or slightly flammable refrigerants.
- **Quietness:** a considerable improvement has been achieved in terms of noise reduction and improved acoustic comfort in laboratories.
- **No need for chilled water:** like previous F-GAS versions with an air condenser, the DM CO2 TRC also features a local air condenser, enabling operation in ambient temperatures up to $+35^{\circ}$.
- **Interchangeability:** the new models are completely exchangeable with their F-GAS predecessors, maintaining the same dimensions.



DM CO2 TCR CHAMBERS

CO2 Revolution

The response to the EU's challenge on refrigerants stems from a clear strategic vision: providing customers with a future-proof, sustainable solution with minimal environmental impact through CO2 technology (R744).

Angelantoni Test Technologies, a global leader in the environmental simulation market, is at the forefront of the Green Transition, by switching from traditional F-GAS to CO2, which has a Global Warming Potential (GWP) equal to 1. This places ACS far ahead of the strict requirements of the new F-GAS Regulation (EU) 2024/573, which aims to reduce the environmental impact of high-GWP refrigerants.



Operational and Maintenance Advantages

The switch to CO2 (R744) in cooling systems has also represented a significant advance in ACS refrigeration technology.

Unlike conventional systems using R449A— which lose most of their cooling capacity below -25°C and can only reach a minimum of -40°C — the CO2 cooling unit configuration ensures effective cooling down to -50°C , maintaining superior cooling performance even at the lowest temperatures required for automotive testing.

Furthermore, these systems **operate more quietly** than conventional systems, improving comfort in noise-sensitive environments.

Finally, CO2 cooling systems eliminate the mandatory legal requirement for refrigerant leakage control, **making chamber management simpler and cost effective.**

ACS DM CO2 TRC chambers embody technological challenges and sustainability in a single product, representing a significant step forward in the field of environmental testing. **Angelantoni Test Technologies continues to demonstrate its commitment to innovation and sustainability, leading the industry towards a greener future.**