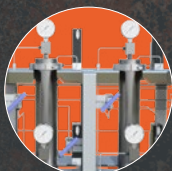




CCS: Corrosion Dosing System



Specification	Gas phase system	Dense phase system
Maximum operating pressure	35 bar	200 bar
Typical operating phase	Gas	Liquid or dense phase CO ₂
Number of dosing channels	Up to 6	Up to 6
Possible impurities	H ₂ S, O ₂ , SO _x , NO _x	H ₂ S, O ₂ , SO _x , NO _x and water
Flow control	Gas mass flow controllers	Coriolis meter and proportional control valve
CO ₂ flow	TBC	0.1 to 1,000 g/h
Pressure control accuracy	+/- 2bar	Approximately ±2 bar
Test equipment	Customer supplied	Customer supplied

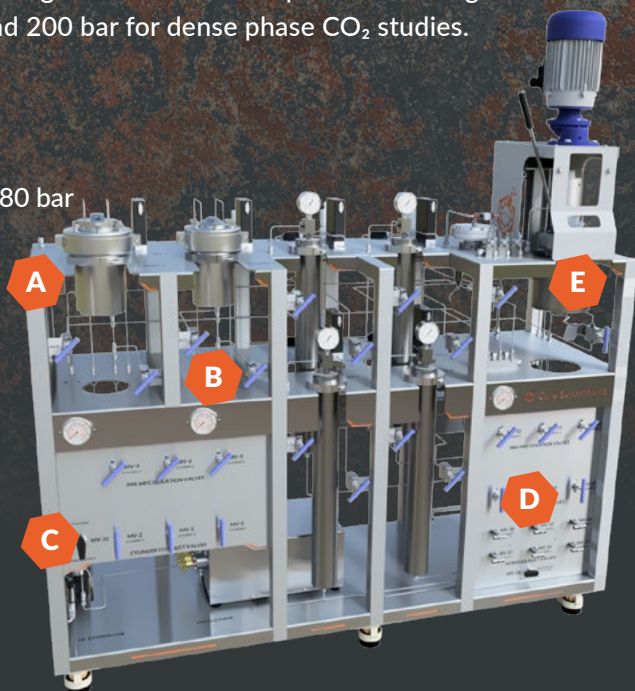
The gas flow ranges, mixture accuracy and allowable impurity concentrations still need to be added. "Up to six channels" should also be confirmed as either six total streams or six impurity streams plus the principal CO₂ stream.



CCS: Corrosion Dosing System

The system provides precise control of pressure, composition and flow, with configurations available up to 35 bar for gas phase studies and 200 bar for dense phase CO₂ studies.

- A.** Flow through system
- B.** Upto 6 mixing channels
- C.** Maximum pressure upto 180 bar
- D.** Dense phase and gas phase mixing
- E.** Adaptive pressure control



Problem with CCS

Carbon capture and storage involves separating CO₂ from an industrial process stream, conditioning and compressing it, and then transporting it to a storage site for injection into a suitable geological formation.

However, the transported stream is not necessarily pure CO₂. Its composition depends on the industrial source, the capture technology and the subsequent conditioning process. Residual water, O₂, SO₂, H₂S, NO_x and other impurities may remain in the stream, creating potentially corrosive conditions during transport and injection.

Gas Delivery System

Controlled laboratory testing allows researchers to investigate how different CO₂ compositions affect pipelines, injection equipment, seals, coatings and other materials used throughout transport and storage infrastructure. This requires a system capable of generating representative CO₂ streams while accurately controlling pressure, flow and impurity concentration.

The Core Separations CO₂ Corrosion Dosing System provides this capability by combining CO₂ with defined concentrations of water and gaseous impurities. Available for gas phase and dense phase operation, it enables corrosion studies under controlled conditions representative of different stages of CO₂ transport and storage.