

# CARBONSTREAM™



## Subsea Flow Meter for CO<sub>2</sub> Injection

With the world moving towards Net Zero through the adoption of Clean Energy solutions, a cornerstone is the use of Carbon Capture and Storage (CCS) to sequester large quantities of Carbon Dioxide (CO<sub>2</sub>) in underground geological formations. With the need to fully account for CO<sub>2</sub> throughout the process, the requirement to accurately measure the quantity of CO<sub>2</sub> at each stage of capture, transport and storage (injection) processes will be essential.

As a world-renowned supplier of flow measurement solutions, Solartron ISA is pleased to introduce the CarbonStream range of CO<sub>2</sub> flow meters, which have been specifically designed for this complex and technically challenging market segment.

Solartron ISA has decades of experience in designing and manufacturing subsea flow meters. Our CarbonStream flow meters provide high accuracy and reliable flow measurement data within the harshest subsea environments.

Supplied with pressure/differential pressure sensors, non-intrusive temperature sensors and onboard flow computer (with pre-programmed Equations of State), CarbonStream is the light weight, low-maintenance, space-saving solution for CO<sub>2</sub> measurement.



## Measurement Applications

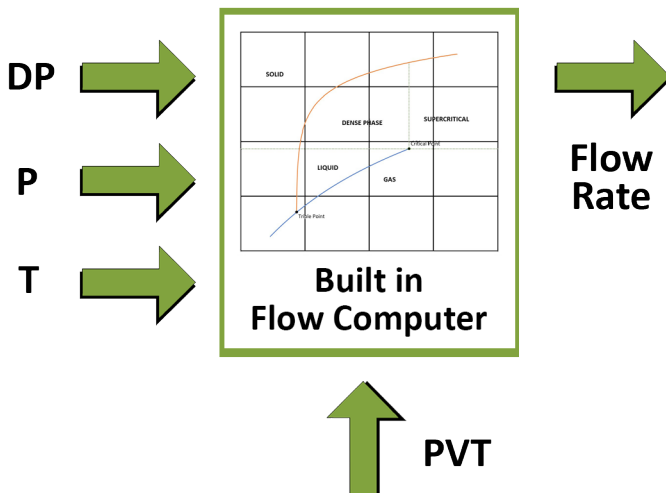
- ✓ Carbon Capture and Storage (CCS)
- ✓ Enhanced Oil Recovery using CO<sub>2</sub>
- ✓ EOR and Storage

## Key Benefits

- ✓ Plug and Play Design
- ✓ Real Time Pressure, Temperature and Flow Outputs
- ✓ High Accuracy
- ✓ Built In Equations of State Calculations
- ✓ Uncomplicated and Robust
- ✓ Low Opex

## Specifications

- ✓ API 6A
- ✓ API 17D
- ✓ API 17F (5th Ed)
- ✓ API 17N
- ✓ ASME V
- ✓ DNV RP F112
- ✓ API 17Q



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## Functional Specifications

### Uncertainty (Typical, 95% confidence)

±2% of mass flow

### Turndown (Typical)

8:1

### Design Conditions

Pressure 10,000 PSI API 6A

Body Material temperature rating class LU -46° to +121°C

### Body Material

UNS S31803

UNS S32760

Others on request

### Design Water Depth

3000 meters

### Transmitter Type

SST3010 MV (c/w remote seals)

### Differential Pressure Range

0-1000 mbar or 0-5000 mbar

### Gauge Pressure Range

0-10,000 psi

### Process Temperature Range

Process temperature rating class U -18°C to +121°C

### Redundancy

Fully redundant sensors and electronics

## Interface Specifications

### Process Connection

Flanged 5 1/8" 10,000 psi API 6A 6BX

Flanged 7 1/16" 10,000 psi API 6A 6BX

### Overall Length

Standard 5 1/8" - 1065 mm

Standard 7 1/16" - 1200 mm approx.

### Transmitter Mechanical Interface (options)

Flanged

Autoclave fitting (anti-vibration)

### Transmitter Electrical Interface

4-way bulkhead connector (others available on request)

### Communication Interface

SIIS Level 2 Canbus (CiA 443)

Modbus (485)

### Data Output

Flow (mass)

Flow (volumetric)

Differential Pressure

Absolute Pressure

Temperature

### Design Lifespan

30 years



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