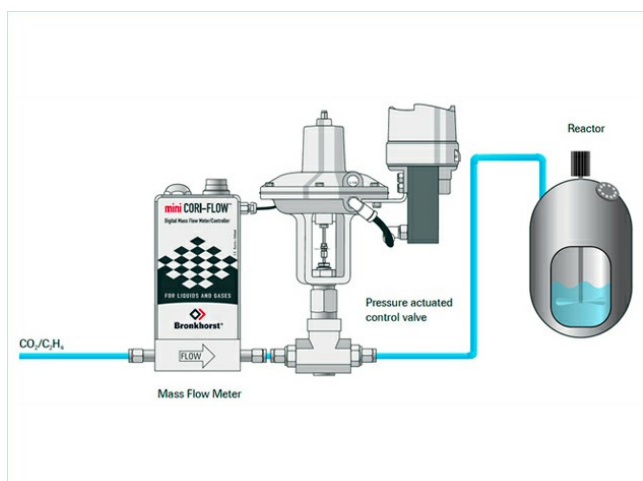


# SUPERCRITICAL GAS MEASUREMENT AND CONTROL

## APPLICATION NOTE

# SUPERCRITICAL GAS MEASUREMENT AND CONTROL

Fluids like carbon dioxide ( $\text{CO}_2$ ) are difficult to measure when they move towards the inter-phase stage between being a liquid and a gas. For example, the supercritical point of  $\text{CO}_2$  is reached at 73,8 bara and 31,1 °C. Beyond these conditions, physical properties like density ( $\rho$ ) and heat capacity ( $C_p$ ) change very rapidly as a result of pressure or temperature variations. This makes an accurate mass flow measurement, based on the thermal principle, very difficult.



## Application requirements

mini CORI-FLOW mass flow meters offer a solution here because of the true mass flow measurement, independent of physical properties. The true mass flow of the molecules is measured, regardless of whether the fluid is in gas phase, in liquid phase or indeed somewhere in between. Experiences in the field have proven that this principle of measuring is very accurate and reliable. For control applications Bronkhorst can offer a flow meter in combination with a metal sealed, pressure actuated control valve. Please contact factory for a customised advice.

## Recommended Products



### MINI CORI-FLOW™ M14

Min. flow 0,03...1 kg/h  
Max. flow 0,3...30 kg/h  
Pressure rating 200 bar  
Independent of fluid properties  
High accuracy, fast response



### MASS-STREAM D-6340 MFM

Min. flow 0,14...7 l/min  
Max. flow 0,5...50 l/min  
Pressure rating up to 20 bar  
Rugged sensor and housing (IP65)  
Optional integrated TFT display

## Would you like to know more?

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