



Industrial Gas Flow Measurement

CARBON DIOXIDE (CO₂)

Flow Metering Solutions

SICK
Sensor Intelligence.

In addition to the today's chemical process industry, carbon dioxide is becoming one of the most important greenhouse gases. With the FLOWSIC family SICK offers ultrasonic meters for gas flow measurement of pure carbon dioxide (100 vol.-%).

Your benefits

- No pressure loss
- Large turn down
- Capable for high pressure applications
- Permanent health check (diagnostics)
- Gas quality monitoring (speed of sound)
- Pure CO₂ measurement

Technical data

	Flowrate [m ³ /h]		Maximum Velocity [m/s]	Length (flange-to-flange) [mm]	Weight (ANSI CL600) [kg]
	min	max			
DN80/3 inch	8	390	24	320	42
DN100/4 inch	13	610	24	300	66
DN150/6 inch	20	1500	24	450	150
DN200/8 inch	32	2400	24	600	220
DN250/10 inch	50	3900	24	750	330
DN300/12 inch	65	4700	22	900	500
DN350/14 inch	80	6100	22	1050	580
DN400/16 inch	120	7900	22	762	650
DN500/20 inch	200	12200	21	902	990
DN600/24 inch	320	17000	21	991	1615
Material	Meter Body: LT-CS (A352 LCC), two layer RAL9003 coated or Stainless Steel (A182 Gr. F316/316L), uncoated Electronics: Aluminum or Stainless Steel Transducer: Titanium				
Flange Type	ASME B16.5				

Measured values	Volumetric flow, a. c., volume a. c., gas velocity, sound velocity
Number of meas. paths	2 (line size 3-6 inch / DN80-150), 4 (line size ≥8 inch / DN200)
Measurement principle	Ultrasonic transit time difference measurement
Measurement medium	CO ₂ (95 ... 100%), gaseous or super critical phase (single phase condition, not mixed)
Repeatability	± 0.1% of the measured value (typical)
Accuracy (0.1 Q_{max} ... Q_{max}) 4-path meter (8 ... 24 inch) 2-path meter (3 ... 6 inch)	≤ ± 0.5% (un-calibrated), ≤ ± 1.0% below 0.1 Q _{max} (typical) ≤ ± 1.0% (un-calibrated), ≤ ± 2.0% below 0.1 Q _{max} (typical)
Min. piping requirements	straight inlet section of ≥ 10D or ≥ 5D with flow conditioner
Operating pressure (typical)	0 ... 100 bar; (100 ... 250 bar on request)
Gas temperature	-40 ... 120 °C
Ambient temperature	-40 ... 60 °C
Ambient humidity	≤ 95% relative humidity; non-condensing
Conformities	ISO17089-2
Ex-approvals (IECEx)	CSA, ATEX, IECEx, Zone 1 and Zone 2 Classification according IIA or IIC T4, intrinsically safe transducers
Electrical safety	CE
Enclosure rating	IP66 / IP67
I/O configuration	1x RS485, 1x Pulse, 2x Status Outputs, 1x Analog Output (4-20mA / HART) or 2x RS485, 2x Pulse, 1x Status Outputs