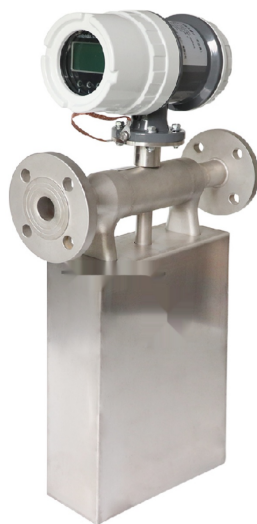


CORIOLIS MASS FLOW METER



- MASS · DENSITY · TEMPERATURE · VOLUME
- LIQUID 0.15 % · GAS 0.5 % OF RATE
- DN 1 TO DN 200 · 0.05 TO 400 t/h



IP67

Stainless
Steel

FLOW RANGE

DN (mm)	Q max (t/h)	PN (MPa)	Zero point (kg/h)	DN (mm)	Q max (t/h)	PN (MPa)	Zero point (kg/h)
1	0.05	4	0.01	40	16	4	1
3	0.2	4	0.04	50	30	4	3
6	0.5	4	0.1	80	60	2.5	10
8 / 10	1	4	0.15	100	100	2.5	20
15	3	4	0.4	150	200	2.5	30
25	6	4	0.6	200	400	2.5	60

Zero point stability is the term Cz of the flow measurement error.



MEASUREMENT

Measuring principle	Coriolis · the mass flow is measured directly, not derived from volume and density
Measured items	Mass flow · density · temperature · volume flow · concentration
Measuring diameter	DN 1 ... DN 200
Maximum flow	0.05 ... 400 t/h depending on the size
Flow measurement error	Liquid $\pm 0.2\%$ or $\pm 0.15\%$ of rate + Cz · gas $\pm 0.5\%$ or $\pm 1.0\%$ of rate + Cz
Density measuring range	0.2 ... 2.5 g/cm ³
Density measurement error	± 0.002 g/cm ³
Temperature measurement error	$\leq 1\text{ }^{\circ}\text{C}$

MEDIUM, MATERIAL AND PROCESS

Measured medium	Liquid · gas
Medium temperature	-200 ... +300 °C
Measuring tube material	Stainless steel 304 · 316 on request
Maximum working pressure	4 MPa up to DN 50 · 2.5 MPa from DN 80
Protection grade	IP67
Process connection	Flanges to the GB/T series · other standards on request

MEASURING PRINCIPLE

The meter consists of a flow sensor and a converter. In the sensor a measuring tube and its supporting tube are kept in vibration by a driving coil; the mass flowing through the tube deflects that vibration, and two electromagnetic probes measure the deflection. A temperature module corrects the influence of temperature on Young's modulus of the tube material. The converter carries the vibration signal generator, the detection unit and the signal processing, and it takes care of the configuration, the unit conversion, the display and the communication with the host system.

ELECTRICAL PROPERTIES

Supply voltage	24 Vdc
Output signal	4 ... 20 mA · pulse 0 ... 2 kHz · RS485 · HART
Converter	Mounted on the sensor · display, configuration and unit conversion

TERMINALS

Terminal	Function	Data
24VDC	Supply +	24 Vdc
0V	Supply -	Common
F	Pulse output	0 ... 2 kHz
mA	Current output	4 ... 20 mA
RS485 A	Bus A	RS485 · HART
RS485 B	Bus B	RS485 · HART

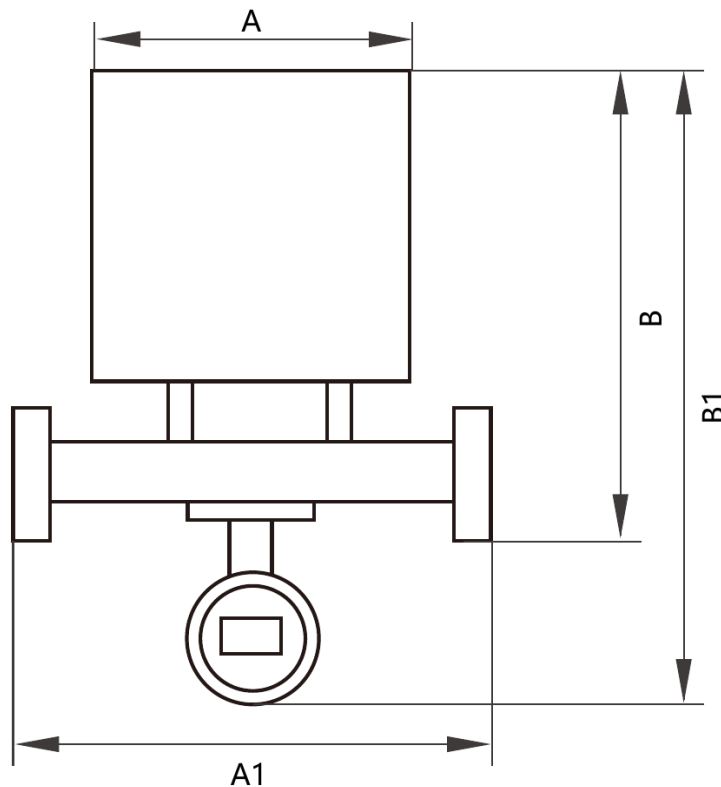


DIMENSIONS (mm)

DIMENSIONS AND WEIGHT

Size (mm)	A	A1	B	B1	Weight (kg)
1 / 3 / 6 / 8	210	290	330	460	7
10	230	320	440	560	9
15	250	350	460	580	11
25	300	380	610	730	17
40	320	450	660	780	23
50	380	530	720	840	28.5
80	520	700	850	980	43
100	590	770	1010	1130	63
150	700	850	1300	1420	75
200	1050	1210	1410	1530	100

Dimensions in mm, weight in kg. A is the width and B the height of the converter and sensor together, A1 and B1 the overall envelope. DN 1, 3, 6 and 8 share one housing size.



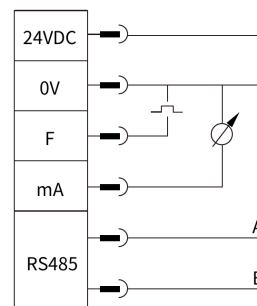
COMPLIANCE AND CERTIFICATION

Protection grade	IP67 for the housing
Wetted materials	Stainless steel 304 · 316 on request
Pressure rating	4 MPa up to DN 50 · 2.5 MPa from DN 80
Flange standard	GB/T series · other standards on request

WIRING AND ORDER CODE

Wiring diagram

- The converter is wired through six terminals: supply, pulse, current output and the two RS485 lines. Pulse and current output work at the same time; the bus carries RS485 or HART. The terminal designations are listed under TERMINALS on page 2.



Supply
24 Vdc

Bus
RS485 · HART

ORDER CODE

Field	Code	Meaning
1 Series	QCKA	QCKA Coriolis mass flow meter
2 Caliber	001 · 002 · 003 · 006 · 010 · 015 · 025 · 040 · 050 · 080 · 100 · 150	Measuring caliber DN 1 ... DN 150 · 001 is DN 1, 150 is DN 150
3 Temperature	C	Normal temperature
	L	Low temperature
	H	High temperature

Example: QCKA-025-C.

