

# Single-Use Coriolis Mass Flow Meter



## Benefits

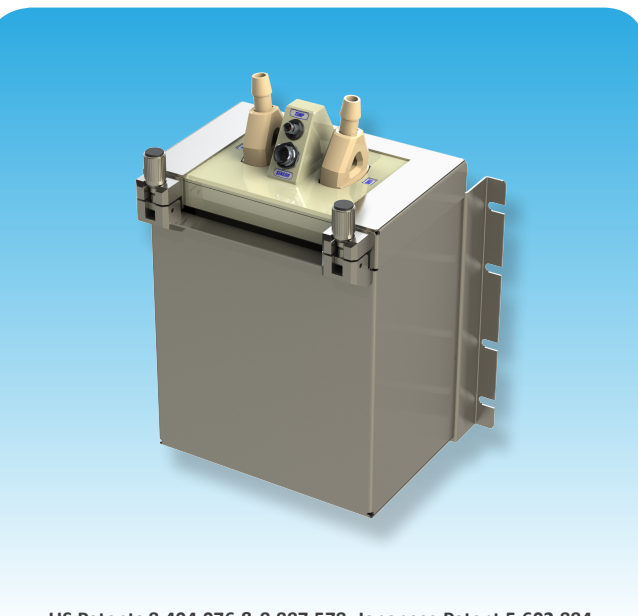
- Gamma Sterilizable PEEK Sensor
- USP Class VI wetted surfaces
- Designed for single-use biopharm processing applications

Malema's SumoFlo® CPFM-8100 series Single-Use Coriolis Meter is specifically designed for measuring liquids in biopharmaceutical and other applications that require all gamma-sterilizable wetted surfaces. The fluid contacting surfaces are made of unreinforced polyether ether ketone (PEEK) that meets USP Class VI, USP 661, and USP 788 standards.

Fluid flows into the sensor consisting of two flow sensitive elements which are vibrated relative to one another – similar to the tines of a tuning fork. Fluid interacts with the sensor dynamically in such a way that the sensor's response is immune to the fluid's chemical and physical properties, flow regime, or variations in flow velocity profile. Fluid mass flow rate is determined by measuring the relative motion of the vibrating flow sensitive elements.

## Features

- Accuracy:  $\pm 1\%$  of mass flow rate reading; unaffected by flow regime or variations to the velocity profile
- Fluid measurement performance is independent of fluid properties such as density and viscosity



US Patents 8,404,076 & 8,887,578. Japanese Patent 5,602,884  
Other patents pending.

## Applications

- Tangential Flow Filtration
- Depth Filtration
- Chromatography
- Buffer Dilution
- Pure water or ultra high purity chemicals
- Fluids with varying density or viscosity

## Measurement Specifications

Model CSEN-8100-C	-031	-062	-063	-082	-152	-153
Accuracy	±1% of rate for 10% to 100% of full scale rated flow rate ±(1% of rate + Z.O.S) for < 10% of full scale rated flow rate					
Temperature	Ambient: 0°–50°C Fluid: 2°–40°C					
Operating Pressure	80 psig (550 kPa gauge) max.					
Flow Range	50 – 1,500 g/min	500 – 5,000 g/min	900 – 9,000 g/min	2 – 20 kg/min	6 – 60 kg/min	10 – 100 kg/min
Zero Offset Stability (Z.O.S.)	0.75 g/min	2 g/min	4 g/min	10 g/min	20 g/min	40 g/min

## Material Specifications

Model CSEN-8100-C	-031	-062	-063	-082	-152	-153
Process Connections *	1/8" barb	1/4" barb	3/8" barb	1/2" barb	3/4" barb	1" barb
Wetted Materials	Unreinforced PEEK (Polyether ether ketone), Polysulfone (for temperature sensor only), Stainless Steel (for temperature sensor only), Adhesive compliant with ISO 10993. All polymeric wetted materials are USP Class VI compliant.					
Interconnecting Cable Length	Standard 3 m; Maximum up to 30 m					
Ingress Rating For Connectors	IP65					

\* Consult the factory for other types of process connection options.

## Electrical Specifications

Supply Voltage	24 VDC ±10%
Power Consumption	Max 6 W
Programming	Operator Parameter configuration through configuration port with a PC
Analog Output Module	4–20 mA
Digital Input/Output Module	Configurable as Frequency or Digital I/O
Frequency Output	0 to 10 kHz proportional to flow rate
Digital Output over MODBUS *	Mass Flow Rate, Volumetric Flow Rate, Density, Temperature **

\* Requires CELE-8100 model configured for MODBUS communications.

\*\* Requires CELE-8100 and CSEN-8100 models configured for temperature compensation.

## Certifications/Compliances

USP Class VI Material Certification	<b>CE Compliance via the following testing:</b> 1. EN61000-4-2: Electrostatic Discharge 2. EN61000-4-3: Radiated Immunity (and Radiated Emissions) 3. EN61000-4-4: Electrical Fast Transients 4. EN61000-4-5: Surge – Power Line 5. EN61000-4-6: Conducted Immunity
USP 661 for Containers/Plastics	
USP 788 for Containers/Plastics	
Directive 2011/65/EU (RoHS)	

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