

## SINGLE-USE CORIOLIS FLOW METER



PSG  
BIOTECH

With extremely low flow rate achievable to 0.002 kg/min. and accuracy of  $\pm 1.5\%$  of reading, the SumoFlo® CPFM-8103-series is the world's only gamma-sterilizable Coriolis mass flow meter. Incorporating improved electronics with an accuracy of  $\pm 1\%$ , the SumoFlo CPFM-8103-series is specially designed for measuring mass and volumetric flow rates of liquids in high-purity biopharmaceutical 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.

### 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
- Multiple sensor sizes from 1/8" to 1"; available with barb or tri-clamp connections
- Supports fluid flow ranges from 7 g/min to 100 kg/min
- Disposable drop-in sensor option for single-use applications
- USP Class VI wetted materials
- PEEK sensor is gamma stable to 50 kGy

The SumoFlo CPFM-8103-series Coriolis flow meter consists of the single-use sensor assembly, supporting electronics, sensor mounting enclosure and a graphical user interface (GUI). Optional temperature sensors provide feedback to the electronics that allow temperature compensation to ensure measurement accuracy regardless of temperature changes to the application fluid. When properly installed in the mounting cradle, the SumoFlo CPFM-8103-series meets CE specifications.

## MEASUREMENT SPECIFICATIONS

Model CSEN-8103-###	031	062	063	082	151	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	30 psig (207 kPa gauge) max.	80 psig (550 kPa gauge) max.					
Flow Range <sup>1</sup>	0.05 – 1.5 kg/min	0.5 – 5 kg/min	0.9 – 9 kg/min	2 – 20 kg/min	4 - 40 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	20 g/min	40 g/min

## MATERIAL SPECIFICATIONS

Model CSEN-8103-###	031	062	063	082	151	152	153
Process Connections <sup>2</sup>	1/8" barb	1/4" barb	3/8" barb 3/8" Mini TC	1/2" barb 1/2" Mini TC	3/4" barb 3/4" Mini TC	3/4" barb 3/4" Mini TC	1" barb 1"-1.5" TC
Wetted Materials	Unreinforced PEEK (Polyether ether ketone), 316L Stainless Steel (for temperature sensor only), Silicone. All polymeric wetted materials are USP Class VI compliant.						
Interconnecting Cable Length	Standard 3 m; For other lengths please consult the factory.						
Ingress Rating For Connectors	IP65						

## ELECTRICAL SPECIFICATIONS

Supply Voltage	24 V DC ±10%
Power Consumption	Max 6 W
Programming	Operator parameter configuration through configuration port with a PC
Analog Output Module	1x 4–20 mA, 2x 4–20 mA, or 4x 4–20 mA
Digital Input/Output Module	0x D/O, 1x D/O, or 2x D/O; Configurable as frequency or digital I/O
Frequency Output	0 to 10 kHz proportional to flow rate
Digital Output over MODBUS <sup>3</sup>	Mass Flow Rate, Volumetric Flow Rate <sup>4</sup> , Density <sup>4</sup> , Temperature <sup>5</sup>

<sup>1</sup> Lower minimum flow rates available with special calibration fee.

<sup>2</sup> Consult the factory for other types of process connection options.

<sup>3</sup> Requires CELE-8103 model configured for MODBUS communications.

<sup>4</sup> Requires CELE-8103 and CSEN-8103 models configured for density measurement.

<sup>5</sup> Requires CELE-8103 and CSEN-8103 models configured for temperature compensation.