

Vortex flow meter



SSF

- Flow meter using ultrasonic sensor to detect vortices, allowing for no moving parts in the flow path
- Using PFA for wetted parts makes it suitable for measuring fluids requiring purity
- CE marked



To ensure flow accuracy, place 7D (seven times the diameter) of straight run length upstream and 5D or greater of straight run length downstream.
To prevent cavitation, back pressure should be applied by installing something like a valve at the outlet side of your instrument.

Model number selection

| Base model | Shape | Fluid name | Option | Specialized item(s) |
|------------|---------|------------|------------------|--|
| SSF | [] - T | [] - [] | [] | [] |
| | | | B | Bracket (For SSF20 only) |
| | | | 9ET | Display (Instantaneous flow / totaled flow (EM0900ET)) * 4 |
| | | | 1 | DI water |
| | | | 9 | Specialized fluid * 3 |
| | | T | | Tube connection |
| | | Base model | Flow range * 1 | Connection size |
| | | 10 | 0.5 – 3.5 L/min | Tube end 3/8" |
| | | 15 | 1 – 16 L/min | Tube end 1/2" |
| | | 20 | 2 – 40 L/min * 2 | Tube end 3/4" |
| | | 25 | 5 – 130 L/min | Tube end 1" |

- * 1: Flow ranges shown above are valid for 20 °C of water.
- * 2: In case that fluid temperature exceeds 70 °C, flow range will be 6 - 40 L/min.
- * 3: Fluids that do not corrode and permeate PFA.
For specialized items, specify them at end of Model number in order.
- * 4: Display is paired with this product at Factory. Refer to Instruction manual of EM0900ET for details.

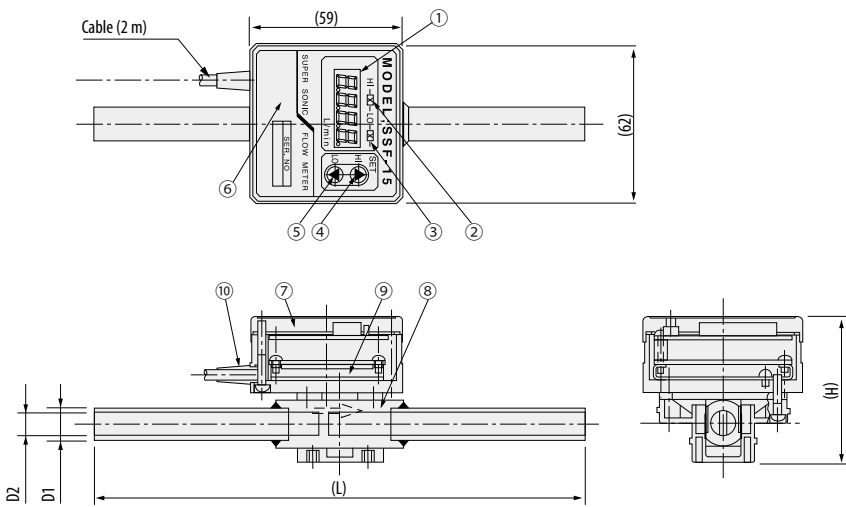
Specifications

| Base model | SSF10 | SSF15 | SSF20 | SSF25 |
|-----------------------------|------------------------------|-------------------------|--|-------------------|
| Fluid name | DI water / Chemicals | | | |
| Wetted material / Tube size | PFA / φ9.53×φ6.33 | PFA / φ12.7×φ9.53 | PFA / φ19.05×φ15.9 | PFA / φ25.4×φ22.2 |
| Flow range | 0.5 – 3.5 L/min | 1 – 16.0 L/min | 2 – 40.0 L/min | 5 – 130 L/min |
| Flow accuracy | ±5 % of F.S. | ±2.5 % of F.S. | ±1.5 % of F.S. | ±2.5 % of F.S. |
| Pressure limit (at 25 °C) | 0.8 MPa(G) | | 0.6 MPa(G) | 0.45 MPa(G) |
| Fluid temperatures | 5 – 85 °C | | | |
| Operating temperatures | 5 – 60 °C | | | |
| Humidity | 5 – 80 % RH (Non-condensing) | | | |
| Output signals | Pulse output | Method | NPN open collector output | |
| | | Capacity | Max. 30 VDC / 80 mA | |
| | | Pulse unit | 10 mL/P | 100 mL/P |
| | | Pulse width | Approx. 5 ms | |
| | Analog output※ | Method | 4 – 20 mA (4 mA when flow rate is 0 L/min) | |
| | | Response time | Approx. 2 s | |
| | | Load resistance | ≤ 500 Ω | |
| | Alarm output | Method | NPN open collector output | |
| | | Capacity | Max. 30 VDC / 80 mA | |
| | Power source | 24 VDC ±10 % (≤ 120 mA) | | |
| Cable length | 2 m | | | |
| Mass | Approx. 180 g | Approx. 190 g | Approx. 220 g | Approx. 310 g |

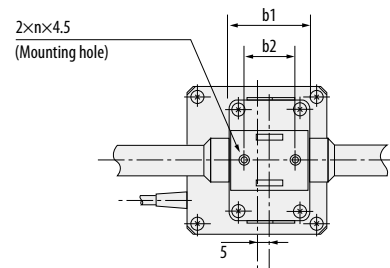
※ Analog output, which is proportional to flow rate, is generated e.g.) 4 mA: 0 L/min, 20 mA: Max. flow rate. (Flow accuracy is ensured for flow ranges we specify)

Outline drawing

SSF10 / 15 / 20 / 25

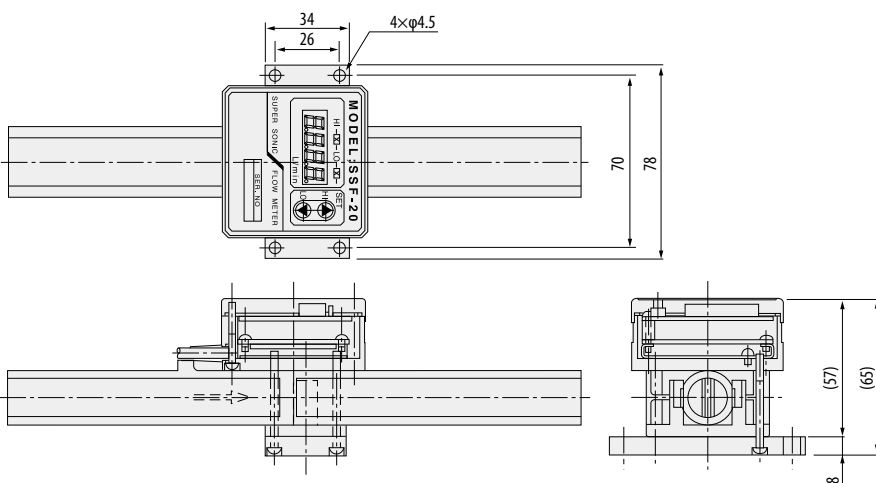


Panel cut-out



* Mounting holes are not available on SSF20, so use Bracket

SSF20(-)B with bracket



Dimensions

| Base model | (L) | D1 | D2 | (H) | n | b1 | b2 |
|------------|-----|--------|-------|-----|--------|------|------|
| SSF10 | 195 | φ9.53 | φ6.33 | 57 | M3×0.5 | 33.5 | 21.5 |
| SSF15 | 210 | φ12.7 | φ9.53 | | | | |
| SSF20 | 227 | φ19.05 | φ15.9 | | | | |
| SSF25 | 352 | φ25.4 | φ22.2 | 72 | M4×0.7 | 44 | 24 |

Electrical connections

| Wire color | Function |
|------------|--|
| Red | Power source at 24 VDC |
| Black | Power source at 0 VDC |
| White | 4 - 20 mA output (+) |
| Blue | 4 - 20 mA output (-) |
| Yellow | Pulse output (+) |
| Gray | Alarm output (+) (Upper / lower limit) |

Applicable wire: AWG 28, Insulating coating size: φ0.85

Materials

| No. | Part name | Material |
|-----|----------------------------------|-----------|
| 1 | Flow display | — |
| 2 | LED for upper limit | — |
| 3 | LED for lower limit | — |
| 4 | Up key for upper limit setting | — |
| 5 | Down key for lower limit setting | — |
| 6 | Panel | Polyester |
| 7 | Cover | PP |
| 8 | Body | PFA |
| 9 | Amplifier case | PP |
| 10 | Cable guard | FKM |

Upper / lower limit output with LED turned on

