

Technical Data for Micro-Flow and Ultra-Low Flow Mass Flow Meters

0 to 0.5SCCM Full Scale through 0 to 50SCCM Full Scale

The following specifications are for the standard configuration of the Alicat product as shipped from the factory. There are many low-cost customization options available.

| Specification | Mass Meter | Description |
|---|---|--|
| Accuracy | ± (0.8% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| High Accuracy Option | ± (0.4% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| Accuracy: Bi-directional Meters Only | ± (0.8% of reading + 0.2% of total span positive full scale to negative full scale) | At calibration conditions after tare |
| Repeatability | ± 0.2% | Full Scale |
| Operating Range | 1% to 100% Full Scale | Measure |
| Typical Response Time | 10 | Milliseconds (Adjustable) |
| Standard Conditions (STP) | 25°C & 14.696PSIA | Mass Reference Conditions |
| Operating Temperature | -10 to +50 | °Celsius |
| Zero Shift | 0.02% | Full Scale / °Celsius / Atm |
| Span Shift | 0.02% | Full Scale / °Celsius / Atm |
| Humidity Range | 0 to 100% | Non-Condensing |
| Measurable Flow Rate | 128% | Full Scale |
| Maximum Pressure | 145 | PSIG |
| Output Signal Digital | Mass Flow, Volume Flow, Pressure & Temperature | RS-232 Serial or PROFIBUS ¹ |
| Output Signal Analog | Mass Flow | 0-5Vdc |
| Optional Output Signal Secondary Analog | Mass Flow, Volumetric Flow Pressure or Temperature | 0-5 Vdc or 0-10Vdc or 4-20mA |
| Electrical Connections | 8 Pin Mini-DIN or DB-15 | |
| Supply Voltage | 7 to 30 Vdc (15-30Vdc for 4-20mA outputs) | |
| Supply Current | 0.035Amp (+ output current on 4-20mA) | |
| Mounting Attitude Sensitivity | 0% | Tare after installation |
| Warm-up Time | < 1 | Second |
| Wetted Materials ² | 303 & 302 Stainless Steel, Viton®, Silicone RTV (Rubber), Glass Reinforced Nylon, Aluminum. | |

1. If selecting PROFIBUS no analog signal is available. PROFIBUS units do not have the display. See PROFIBUS specifications for PROFIBUS supply voltages and currents.
 2. If your application demands a different material, please contact Application Assistance for available options.

Mechanical Specifications

| Full Scale Flow Mass Meter | Mechanical Dimensions | Process Connections ¹ | Pressure Drop ² (PSID) |
|----------------------------|-----------------------|-----------------------------------|-----------------------------------|
| 0.5SCCM to 1SCCM | 3.9"H x 2.4"W x 1.1"D | M-5 (10-32) Female Thread* | 1.0 |
| 2SCCM to 50SCCM | | | 1.0 |

Units ≤50SCCM F.S. are shipped with M-5 (10-32) Male Buna-N O-ring face seal to 1/8" Female NPT fittings.

These adaptor fittings were selected for customer convenience in process connection. It should be noted that the 1/8" Female NPT introduces additional dead volume. To minimize dead volume, please see [Accessories](#) for the 10-32 Male to 1/8"OD compression fitting.

- Compatible with Beswick®, Swagelok® tube, Parker®, face seal, push connect and compression adapter fittings.
- Venting to atmosphere. Lower Pressure Drops Available, please contact Application Assistance.

0.5SCCM to 50SCCM approximate shipping weight: 0.8lb

Technical Data for Low Flow Mass Flow Meters

0 to 100 SCCM Full Scale through 0 to 20 SLPM Full Scale

The following specifications are for the standard configuration of the Alicat product as shipped from the factory. There are many low-cost customization options available.

| Specification | Mass Meter | Description |
|--|---|--|
| Accuracy | ± (0.8% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| High Accuracy Option | ± (0.4% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| Accuracy: Bi-directional Meters Only | ± (0.8% of reading + 0.2% of total span positive full scale to negative full scale) | At calibration conditions after tare |
| Repeatability | ± 0.2% | Full Scale |
| Operating Range | 1% to 100% Full Scale | Measure |
| Typical Response Time | 10 | Milliseconds (Adjustable) |
| Standard Conditions (STP) | 25°C & 14.696PSIA | Mass Reference Conditions |
| Operating Temperature | -10 to +50 | °Celsius |
| Zero Shift | 0.02% | Full Scale / °Celsius / Atm |
| Span Shift | 0.02% | Full Scale / °Celsius / Atm |
| Humidity Range | 0 to 100% | Non-Condensing |
| Measurable Flow Rate | 128% | Full Scale |
| Maximum Pressure | 145 | PSIG |
| Output Signal Digital | Mass, Volume, Pressure & Temperature | RS-232 Serial or PROFIBUS ¹ |
| Output Signal Analog | Mass Flow | 0-5Vdc |
| Optional Output Signal Secondary Analog | Mass, Volumetric Pressure or Temperature | 0-5 Vdc or 0-10Vdc or 4-20mA |
| Electrical Connections | 8 Pin Mini-DIN or DB-15 | |
| Supply Voltage | 7 to 30 Vdc (15-30Vdc for 4-20mA outputs) | |
| Supply Current | 0.035Amp (+ output current on 4-20mA) | |
| Mounting Attitude Sensitivity | 0% | Tare after installation |
| Warm-up Time | < 1 | Second |
| Wetted Materials ² | 303 & 302 Stainless Steel, Viton®, Silicone RTV (Rubber), Glass Reinforced Nylon, Aluminum. | |
| <p>1. If selecting PROFIBUS no analog signal is available. PROFIBUS units do not have the display. See PROFIBUS specifications for PROFIBUS supply voltages and currents.</p> <p>2. If your application demands a different material, please contact Application Assistance for available options.</p> | | |

Mechanical Specifications

| Full Scale Flow Mass Meter | Mechanical Dimensions | Process Connections ¹ | Pressure Drop ² (PSID) |
|--|-----------------------|----------------------------------|-----------------------------------|
| 100SCCM to 10SLPM | 4.1"H x 2.4"W x 1.1"D | 1/8" NPT Female | 1.0 |
| 20SLPM | 4.1"H x 2.4"W x 1.1"D | 1/8" NPT Female | 1.0 |
| <p>1. Compatible with Beswick®, Swagelok® tube, Parker®, face seal, push connect and compression adapter fittings.</p> <p>2. Venting to atmosphere. Lower Pressure Drops Available, please contact Application Assistance.</p> | | | |

100SCCM to 20SLPM approximate shipping weight: 1.0lb

Technical Data for Moderate Flow Mass Flow Meters

0 to 50 SLPM Full Scale through 0 to 250 SLPM Full Scale

The following specifications are for the standard configuration of the Alicat product as shipped from the factory. There are many low-cost customization options available.

| Specification | Mass Meter | Description |
|---|---|--|
| Accuracy | ± (0.8% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| High Accuracy Option | ± (0.4% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| Accuracy: Bi-directional Meters Only | ± (0.8% of reading + 0.2% of total span positive full scale to negative full scale) | At calibration conditions after tare |
| Repeatability | ± 0.2% | Full Scale |
| Operating Range | 1% to 100% Full Scale | Measure |
| Typical Response Time | 10 | Milliseconds (Adjustable) |
| Standard Conditions (STP) | 25°C & 14.696PSIA | Mass Reference Conditions |
| Operating Temperature | -10 to +50 | °Celsius |
| Zero Shift | 0.02% | Full Scale / °Celsius / Atm |
| Span Shift | 0.02% | Full Scale / °Celsius / Atm |
| Humidity Range | 0 to 100% | Non-Condensing |
| Measurable Flow Rate | 128% | Full Scale |
| Maximum Pressure | 145 | PSIG |
| Output Signal Digital | Mass Flow, Volumetric Flow, Pressure & Temperature | RS-232 Serial or PROFIBUS ¹ |
| Output Signal Analog | Mass Flow | 0-5Vdc |
| Optional Output Signal Secondary Analog | Mass Flow, Volumetric Pressure or Temperature | 0-5 Vdc or 0-10Vdc or 4-20mA |
| Electrical Connections | 8 Pin | Mini-DIN |
| Supply Voltage | 7 to 30 Vdc (15-30Vdc for 4-20mA outputs) | |
| Supply Current | 0.035Amp (+ output current on 4-20mA) | |
| Mounting Attitude Sensitivity | 0% | Tare after installation |
| Warm-up Time | < 1 | Second |
| Wetted Materials ² | 303 & 302 Stainless Steel, Viton®, Silicone RTV (Rubber), Glass Reinforced Nylon, Aluminum. | |

1. If selecting PROFIBUS no analog signal is available. PROFIBUS units do not have the display. See PROFIBUS specifications for PROFIBUS supply voltages and currents.
 2. If your application demands a different material, please contact Application Assistance for available options.

Mechanical Specifications

| Full Scale Flow Mass Meter | Mechanical Dimensions | Process Connections ¹ | Pressure Drop ² (PSID) |
|----------------------------|-----------------------|----------------------------------|-----------------------------------|
| 50SLPM | 4.4"H x 4.0"W x 1.6"D | 1/4" NPT Female | 2.0 |
| 100SLPM | | | 2.5 |
| 250SLPM | 5.0"H x 4.0"W x 1.6"D | 1/2" NPT Female | 4.0 |

1. Compatible with Beswick®, Swagelok® tube, Parker®, face seal, push connect and compression adapter fittings.
 2. Venting to atmosphere. Lower Pressure Drops Available, please contact Application Assistance.

50SLPM approximate shipping weight: 2.2 lb.
 100SLPM approximate shipping weight: 2.4 lb.
 250SLPM approximate shipping weight: 3.2 lb.

Technical Data for High Flow Mass Flow Meters

0 to 500 SLPM Full Scale through 0 to 2000 SLPM Full Scale

The following specifications are for the standard configuration of the Alicat product as shipped from the factory. There are many low-cost customization options available.

| Specification | Mass Meter | Description |
|---|---|--|
| Accuracy | ± (0.8% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| High Accuracy Option ¹ | ± (0.4% of Reading + 0.2% of Full Scale) | At calibration conditions after tare |
| Accuracy: Bi-directional Meters Only | ± (0.8% of reading + 0.2% of total span positive full scale to negative full scale) | At calibration conditions after tare |
| Repeatability | ± 0.2% | Full Scale |
| Operating Range | 1% to 100% Full Scale | Measure |
| Typical Response Time | 10 | Milliseconds (Adjustable) |
| Standard Conditions (STP) | 25°C & 14.696PSIA | Mass Reference Conditions |
| Operating Temperature | -10 to +50 | °Celsius |
| Zero Shift | 0.02% | Full Scale / °Celsius / Atm |
| Span Shift | 0.02% | Full Scale / °Celsius / Atm |
| Humidity Range | 0 to 100% | Non-Condensing |
| Measurable Flow Rate | 128% | Full Scale |
| Maximum Pressure | 145 | PSIG |
| Output Signal Digital | Mass Flow, Volumetric Flow, Pressure & Temperature | RS-232 Serial or PROFIBUS ² |
| Output Signal Analog | Mass Flow | 0-5Vdc |
| Optional Output Signal Secondary Analog | Mass Flow, Volumetric Flow Pressure or Temperature | 0-5 Vdc or 0-10Vdc or 4-20mA |
| Electrical Connections | 8 Pin Mini-DIN or DB-15 | |
| Supply Voltage | 7 to 30 Vdc (15-30Vdc for 4-20mA outputs) | |
| Supply Current | 0.035Amp (+ output current on 4-20mA) | |
| Mounting Attitude Sensitivity | 0% | Tare after installation |
| Warm-up Time | < 1 | Second |
| Wetted Materials ³ | 303 & 302 Stainless Steel, Viton®, Silicone RTV (Rubber), Glass Reinforced Nylon, Aluminum. | |

1. High Accuracy option not available for 2000SLPM units.
2. If selecting PROFIBUS no analog signal is available. PROFIBUS units do not have the display. See PROFIBUS specifications for PROFIBUS supply voltages and currents.
3. If your application demands a different material, please contact Application Assistance for available options.

Mechanical Specifications

| Full Scale Flow Mass Meter | Mechanical Dimensions | Process Connections ¹ | Pressure Drop ² (PSID) |
|----------------------------|-----------------------|----------------------------------|-----------------------------------|
| 500SLPM | 5.0"H x 4.0"W x 1.6"D | 3/4" NPT Female | 5.5 |
| 1000SLPM | | | 6.0 |
| 1500SLPM | | | 9.0 |
| 2000SLPM | 5.0"H x 5.2"W x 2.9"D | | 5.0 |

1. Compatible with Beswick®, Swagelok® tube, Parker®, face seal, push connect and compression adapter fittings.
2. Venting to atmosphere. Lower Pressure Drops Available, please contact Application Assistance.

500SLPM to 1500SLPM approximate shipping weight: 3.5lb
2000SLPM approximate shipping weight: 4.5lb