358 Series MS and MBS mass flow meters



Corrosion-resistant laminar mass flow meters from 0.5 smL/min to 12 000 sL/min full scale

The MS meter measures the mass flow of corrosive gases and also reports volumetric flow, pressure and temperature. Its wetted parts are 316L stainless steel with FFKM seals. It stores 130 gases and 20 user mixes. The MBS is the battery-powered portable version.

12 000	1–100 %	< 1 ms	130	11.0 bar a
Largest full scale, sL/min; smallest 0.5 smL/min	Flow measurement range of full scale	Sensor response time	Stored gases, plus 20 user-defined mixes	Maximum operating pressure (160 psia)

Performance

Reference conditions	Standard 21.11 °C, normal 0 °C, at 1013.25 mbar; configurable
Accuracy [1]	±(0.8 % rd + 0.2 % FS)
High-accuracy option [1]	5 smL/min–500 sL/min: ±(0.4 % rd + 0.2 % FS)
Repeatability (2σ)	±0.2 % FS
Flow measurement range	1–100 % FS
Turndown ratio	100:1
Indication response	Flow rate dependent, adjustable; as fast as (T63): 0.5–5 smL/min: 100–4000 ms 10 smL/min–20 sL/min: < 10 ms 50–12 000 sL/min: 65–255 ms
Sensor response	< 1 ms
Warm-up time	Typically < 1 s
Temperature sensitivity	Zero and span ±0.02 % FS/°C from 25 °C
Pressure sensitivity	Zero and span ±(0.08 % rd + 0.02 % FS)/atm from calibration conditions
Pressure accuracy [1]	±0.5 % FS
Temperature accuracy	±0.75 °C
Totaliser	±0.1 % rd additional uncertainty

Operating conditions

Operating pressure	0.79–11.0 bar a (11.5–160 psia)
Damage limits	Line: above 13.8 bar a (200 psia) Rapid change: above 5.17 bar (75 psid)
Temperature	–10 to 60 °C, ambient and gas
Humidity	0–95 % non-condensing

Mechanical

Wetted materials	Stainless steel 316L; FFKM seals, FKM or EPDM as needed for some gases
Ingress protection	IP40
Orientation sensitivity	None
Mounting holes	4× 8-32 UNC, 8.38 mm deep

Electrical and communication (MS)

Analogue outputs [3]	4–20 mA, 0–5 V DC, 1–5 V DC or 0–10 V DC; adds ±0.1 % FS uncertainty
Digital I/O	Standard: RS-232 and Modbus RTU Options: RS-485, Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP, PROFIBUS, PROFINET, IO-Link
Connector	6-pin locking, 8-pin mini-DIN, 8-pin M12, DB-9 or DB-15; custom pinouts: ask Analyt-MTC
Supply [2]	0–5 V DC output: 9–24 V DC, 40 mA 0–10 V DC output: 12–28 V DC, 40 mA 4–20 mA output: 12–28 V DC, 80 mA
Update rates [2]	Digital: 40 Hz at 19 200 baud Analogue: 1 kHz; display: 10 Hz

Electrical and communication (MBS)

Supply	5 V DC, 1 A recommended, from a USB outlet adapter
Battery life	Monochrome display: 18 h Colour TFT display: 8 h User-configurable; depends on contrast
Charging temperature	0–45 °C
Communication	Serial over Micro-USB type B Optional: Bluetooth Low Energy, with a compatible Android or iOS device
Size and weight	The MBS adds 41.81 mm to the height and 90.72 g to the weight

Display and gases

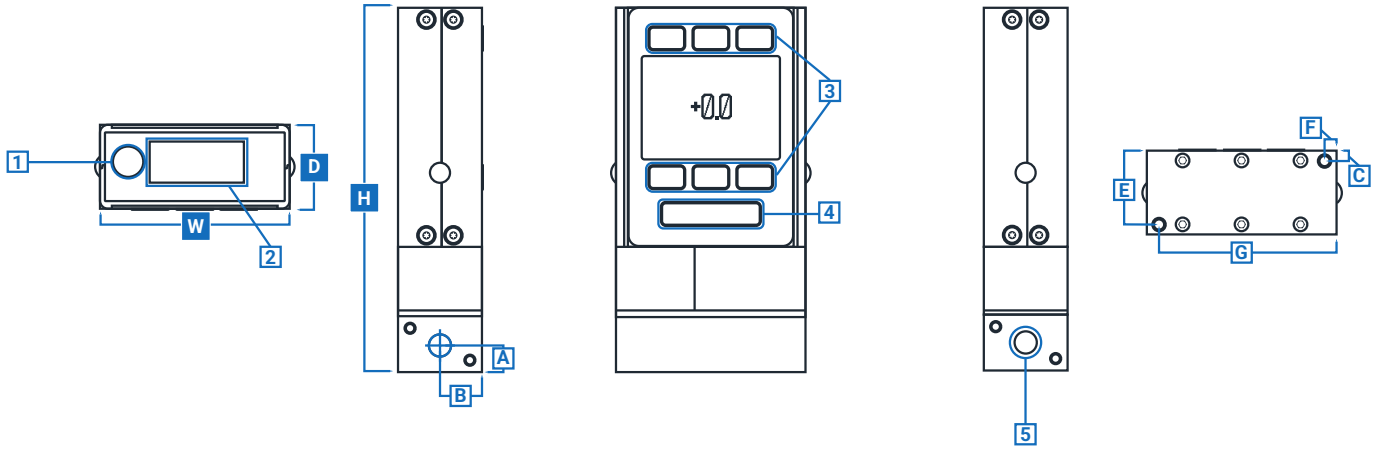
Display	Monochrome LCD or colour TFT, touchpad; shows mass and volumetric flow, pressure, temperature
Gas library	130 gases, properties matched to NIST REFPROP 10 across the operating range
Gas mixes	20 user mixes of up to 5 gases, 0.01 % resolution

Ranges, pressure drop, connections (21.11 °C, 1013.25 mbar)

Full scale	Δp, mbar	psid	Process connection
0.5–50 smL/min	69	1.0	M5 female
100 smL/min–20 sL/min	69	1.0	1/8" NPT female
50 sL/min	138	2.0	1/4" NPT female
100 sL/min	172	2.5	1/4" NPT female
250 sL/min	145	2.1	1/2" NPT female
500 sL/min	276	4.0	3/4" NPT female
1000 sL/min	414	6.0	3/4" NPT female
2000 sL/min	345	5.0	3/4" NPT female
3000 sL/min	490	7.1	1 1/4" NPT female
5000 sL/min	234	3.4	1 1/2" NPT female
10 000 sL/min	862	12.5	2" NPT female
12 000 sL/min	1055	15.3	2" NPT female

Δp at full scale, venting air to atmosphere. M5 ports: 10-32 compatible, shipped with 316 stainless steel face-seal adapters (FFKM O-ring) to 1/8" NPT female.

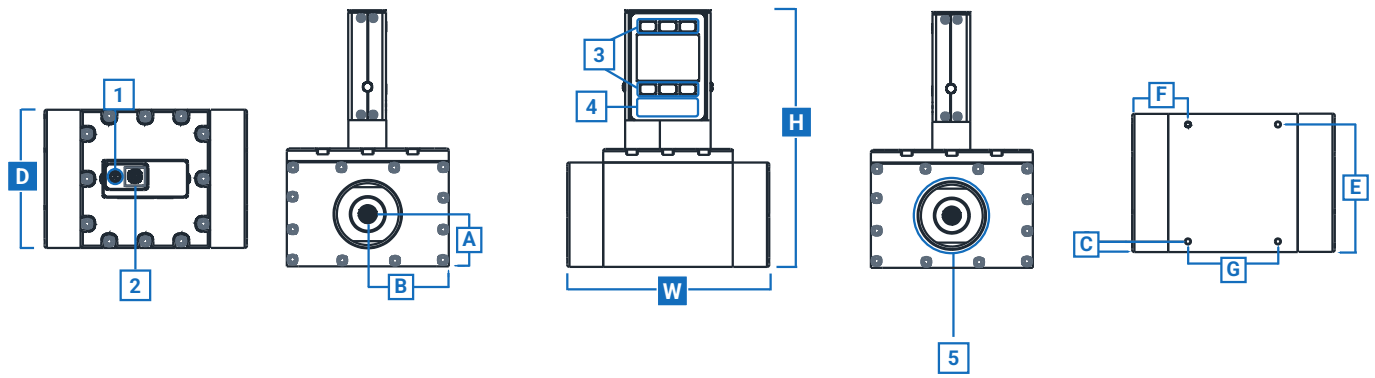
0.5 smL/min–20 sL/min



1 DC power input
2 Input and output port
3 Controls
4 Backlight switch
5 Process connection

Top view; two side views and the front view; bottom view with mounting holes. The first table gives the dimensions. The MBS battery section adds 41.81 mm to H.

50–12 000 sL/min



1 DC power input
2 Input and output port
3 Controls
4 Backlight switch
5 Process connection

Top view; two side views and the front view; bottom view with mounting holes. The second table gives the dimensions. The MBS battery section adds 41.81 mm to H.

Dimensions to 20 sL/min, mm and kg

Full scale	W	D	H	A	B	C	E	F	G	kg
0.5–50 smL/min	60.3	26.7	111.7	8.5	13.3	3.2	23.5	3.8	56.5	≈ 0.4
100 smL/min–20 sL/min	60.3	26.7	116.0	8.9	13.3	3.2	23.5	3.8	56.5	≈ 0.5

Dimensions from 50 sL/min, mm and kg

Full scale	W	D	H	A	B	C	E	F	G	kg
50–100 sL/min	101.6	40.6	128.7	12.7	20.3	4.4	36.2	19.1	82.6	≈ 1.3
250 sL/min	101.6	40.6	143.9	20.3	20.3	4.4	36.2	19.1	82.6	≈ 1.6
500–1000 sL/min	101.6	40.6	143.9	20.3	20.3	4.4	36.2	19.1	82.6	≈ 1.6
2000–3000 sL/min	132.1	73.7	152.1	28.4	36.8	5.1	68.6	34.3	97.8	≈ 2.0
5000 sL/min	142.2	97.5	179.9	36.8	48.8	7.5	90.0	39.4	63.5	≈ 6.4
10 000–12 000 sL/min	218.4	97.5	194.1	43.2	48.8	7.5	90.0	77.5	63.5	≈ 9.1

Standard versions, air (21.11 °C, 1013.25 mbar)

Full scale	Order code MS	Order code MBS
0.5 smL/min	35800S	35800BS
1 smL/min	35801S	35801BS
2 smL/min	35802S	35802BS
5 smL/min	35803S	35803BS
10 smL/min	35804S	35804BS
20 smL/min	35805S	35805BS
50 smL/min	35806S	35806BS
100 smL/min	35807S	35807BS
200 smL/min	35808S	35808BS
500 smL/min	35809S	35809BS
1 sL/min	35810S	35810BS
2 sL/min	35811S	35811BS
5 sL/min	35812S	35812BS
10 sL/min	35813S	35813BS
20 sL/min	35814S	35814BS

Larger standard versions, air (21.11 °C, 1013.25 mbar)

Full scale	Order code MS	Order code MBS
50 sL/min	35815S	35815BS
100 sL/min	35816S	35816BS
250 sL/min	35817S	35817BS
500 sL/min	35818S	35818BS
1000 sL/min	35819S	35819BS
2000 sL/min	Ask Analyt-MTC	Ask Analyt-MTC
3000 sL/min	Ask Analyt-MTC	Ask Analyt-MTC
5000 sL/min	Ask Analyt-MTC	Ask Analyt-MTC
10 000 sL/min	Ask Analyt-MTC	Ask Analyt-MTC
12 000 sL/min	Ask Analyt-MTC	Ask Analyt-MTC

Order from Analyt-MTC with the order codes. Calibrated for air; another gas or a gas mix is selected on the meter. For any other version, contact Analyt-MTC.

Options

High-accuracy calibration, 5 smL/min–500 sL/min (see Accuracy)
Weatherproof housing
Compression, face-seal, push-to-connect, BSPP or SAE connections
Swagelok®-compatible tube, VCO® or VCR® connections

Notes

1. rd = of reading, FS = of full scale. Accuracy holds after tare at equilibrium. Extreme gas behaviour, especially near state boundaries, can add flow uncertainty. sL/min and smL/min at 21.11 °C, 1013.25 mbar.
2. Fieldbus versions differ in supply and data rates; ask Analyt-MTC for their documentation.
3. Analogue outputs are not available on the MBS.

ANALYT-MTC Messtechnik GmbH
Sales, service and calibration

www.analyt-mtc.com

German Headquarters
Klosterrunsstraße 18, 79379 Müllheim
+49 7631 5545
info@analyt-mtc.de

French Subsidiary
175 Avenue d'Alsace, 68000 Colmar
+33 3 89 41 47 78
info@analyt-mtc.fr

© 2026 ANALYT-MTC Messtechnik GmbH. All rights reserved. Subject to technical changes without notice.