Advanced Microfluidics

Environmental conditions

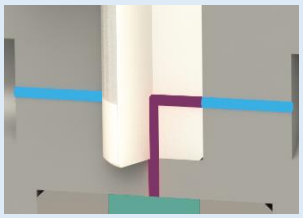
Operating temperature	15-40°C (59-104°F)
Humidity	20-80%, non-condensing
Max pressure	7 bars (102 psi)

Fluidic characteristics

Tube port fittings	¼-28 UNF, flat bottom
Wetted materials	PTFE, PCTFE and borosilicate glass
Channel diameter	0.5 mm (0.020 in) / 0.4-1 mm (0.015-0.039 in) available upon request

Mechanical characteristics

COMPATIBLE VALVE MODELS

Series	LOW CARRYOVER VOLUME
Liquid path	
Number of channels inside rotary part	1
Number of ports	6 – 8 – 10 – 12
Channel diameter	0.5, 1 mm
Internal volume (with syringe)	10.8 – 25.7 µL
Carryover volume (with syringe)	9.8 – 18.6 µL

Glossary reminder

Internal volume: Volume inside the system, from entrance to exit (does not include the volume in the syringe)

Dead volume: Volume that is "stuck" in the system (dead end), which is not cleanly swept and relies on diffusion to clear out.

Carryover volume: Volume of liquid that will be mixed with the next liquid or sample. It is not stuck, but will be swept next time a liquid passes.

Advanced Microfluidics SA
Chemin de la Dent d'Oche 1a
CH-1024 Ecublens, Switzerland
Phone: +41 (0)21 552 14 30
Email: info@amf.ch
Web: www.amf.ch

Advanced Microfluidics

PLUNGER DETAILS

Travel length	30 mm with 96'000 micro-steps
Resolution	Selectable 3'000 steps or 24'000 steps
Drive	Screw drive with linear encoder for step loss detection
Plunger seal material	PTFE
Accuracy	≤ 1.0 % at full stroke

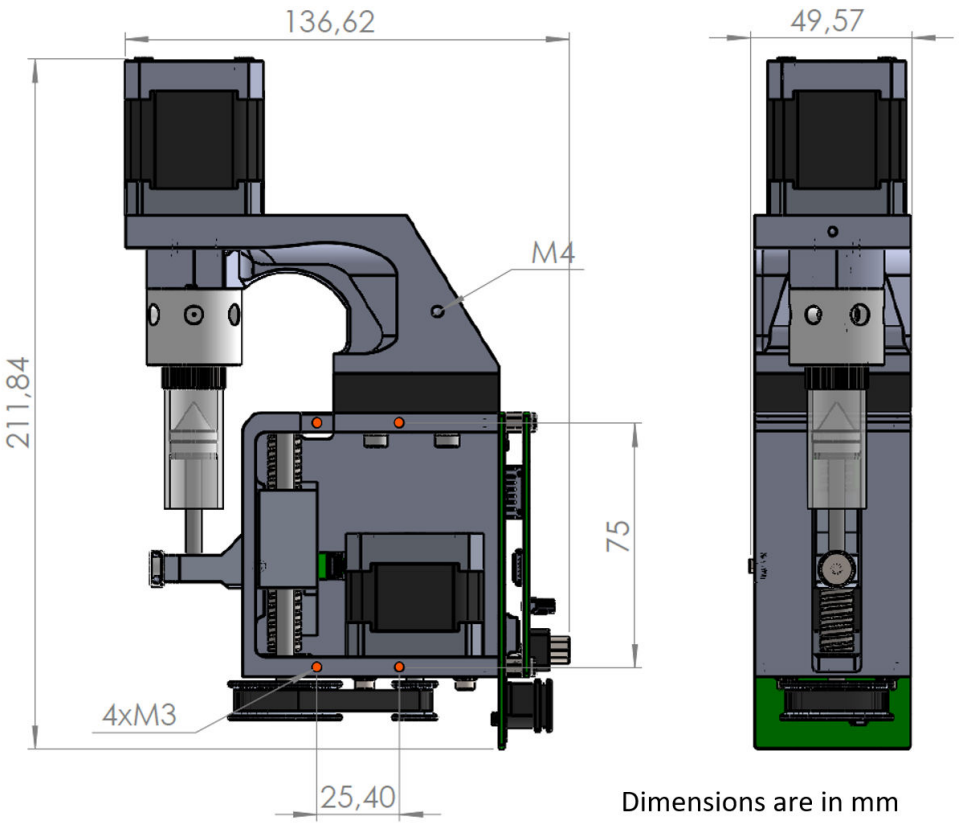
COMPATIBLE SYRINGE MODELS

Ref. #	Plunger material	Syringe volume [mL]	Min. flow rate [µL/min]	Max. flow rate [µL/min]	Min. dosing volume [µL]
S-2500-P	PTFE	2.5	0.373	75'000	5
S-5000-P	PTFE	5	0.745	150'000	10

COMPLETE MODULE (Ref. P101-O)

Dimensions	211.9 x 136.7 x 49.6 mm
Weight	1.6 Kg
Default configuration	5000-µL syringe with PTFE plunger (S-5000-P) 6-position valve with low carryover volume (V-D-1-6-050)
External fixation system	4x M3 screws, position shown in orange

Advanced Microfluidics SA
Chemin de la Dent d'Oche 1a
CH-1024 Ecublens, Switzerland
Phone: +41 (0)21 552 14 30
Email: info@amf.ch
Web: www.amf.ch



Dimensions are in mm

Advanced Microfluidics SA
Chemin de la Dent d'Oche 1a
CH-1024 Ecublens, Switzerland
Phone: +41 (0)21 552 14 30
Email: info@amf.ch
Web: www.amf.ch

Electrical characteristics

Power	18-24 VDC, 2.2 A peak
Required cables for operation	USB mini to USB, Power cord (5.5 x 2.1 mm power jack)

Communication and Hardware interface

Electrical Interface	USB mini, 9–pin D–Sub (other upon request)
Interface	USB mini, RS-232 or RS-485
Communication type	Serial communication

The valve controller is seen as a virtual serial port. There is an on-board FTDI USB to serial chip, so the drivers are automatically installed on Windows 7 and above.

SERIAL COMMUNICATION PARAMETERS

Baud rate	9600
Data Bit	8
Parity	None
Stop Bit	1
Handshake	None
End line	<CR>

View the SPM operating manual for the extensive command set.

Revisions

Version	Author	Release Date	Modifications	Revised By	Approved By
01.04	RRY	15/05/2025	Correct volumes	CAL	RRY
01.05	RRY	19/05/2025	Title update	NFA	RRY
01.06	RRY	27/05/2025	Update volumes	MGE	RRY
01.07	MGE	08/07/2026	Power jack dimensions	CAL	MGE

Advanced Microfluidics SA
Chemin de la Dent d'Oche 1a
CH-1024 Ecublens, Switzerland
Phone: +41 (0)21 552 14 30
Email: info@amf.ch
Web: www.amf.ch