

Environmental conditions

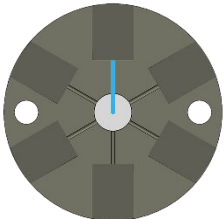
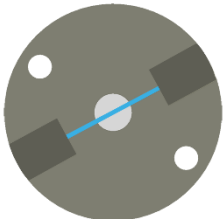
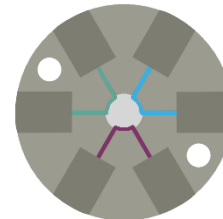
Operating temperature	15-40°C (41-104°F)
Humidity	20-80%, non-condensing
Max pressure	7 bars (102 psi)

Fluidic characteristics

Tube port fittings	Standard ¼-28 UNF, flat-bottom
Wetted materials	PTFE or UHMW-PE, PCTFE
Channel diameter	0.5 mm / 1 mm (other upon request)
Axial port (stainless steel)	¼-28 UNF, flat-bottom (10 mm depth)

Mechanical characteristics

VALVE MODELS

Series	DISTRIBUTION	ON/OFF	SWITCH
Description	Lets you choose 1 among N ports	Simple switch: flow or no flow	Channels are linked two by two
Liquid path			

For known aliases and catalogue models, please refer to <https://amf.ch/product/oem-rotary-valve/>

Glossary reminder

Internal volume: Volume inside the system, from entrance to exit.

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. It is not stuck, but will be swept next time a liquid passes.

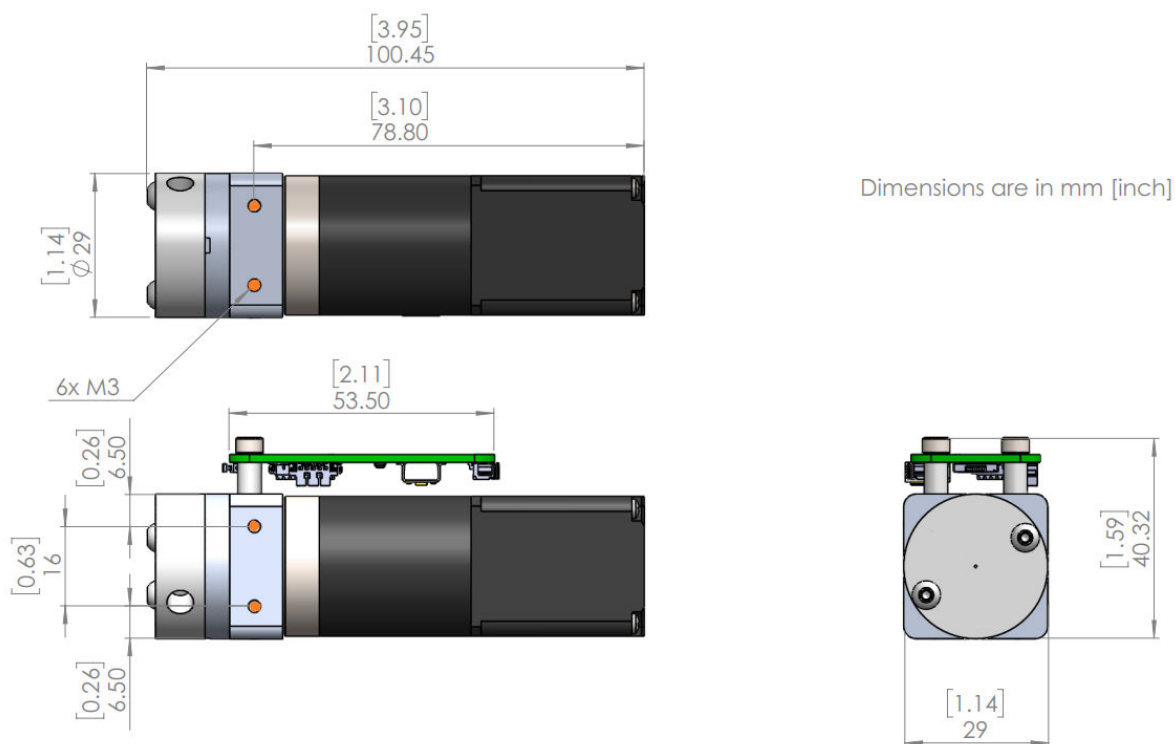
RVM – Ultra-low internal volume rotary valve

DATASHEET



LOW POWER MODULE (Ref. P200-O)

Weight (without valve head)	~250 g
Dimensions	29 x 41 x 112 mm
External fixation system	6x M3 screws, position shown in orange
Rotation time for 180°	1.5 s



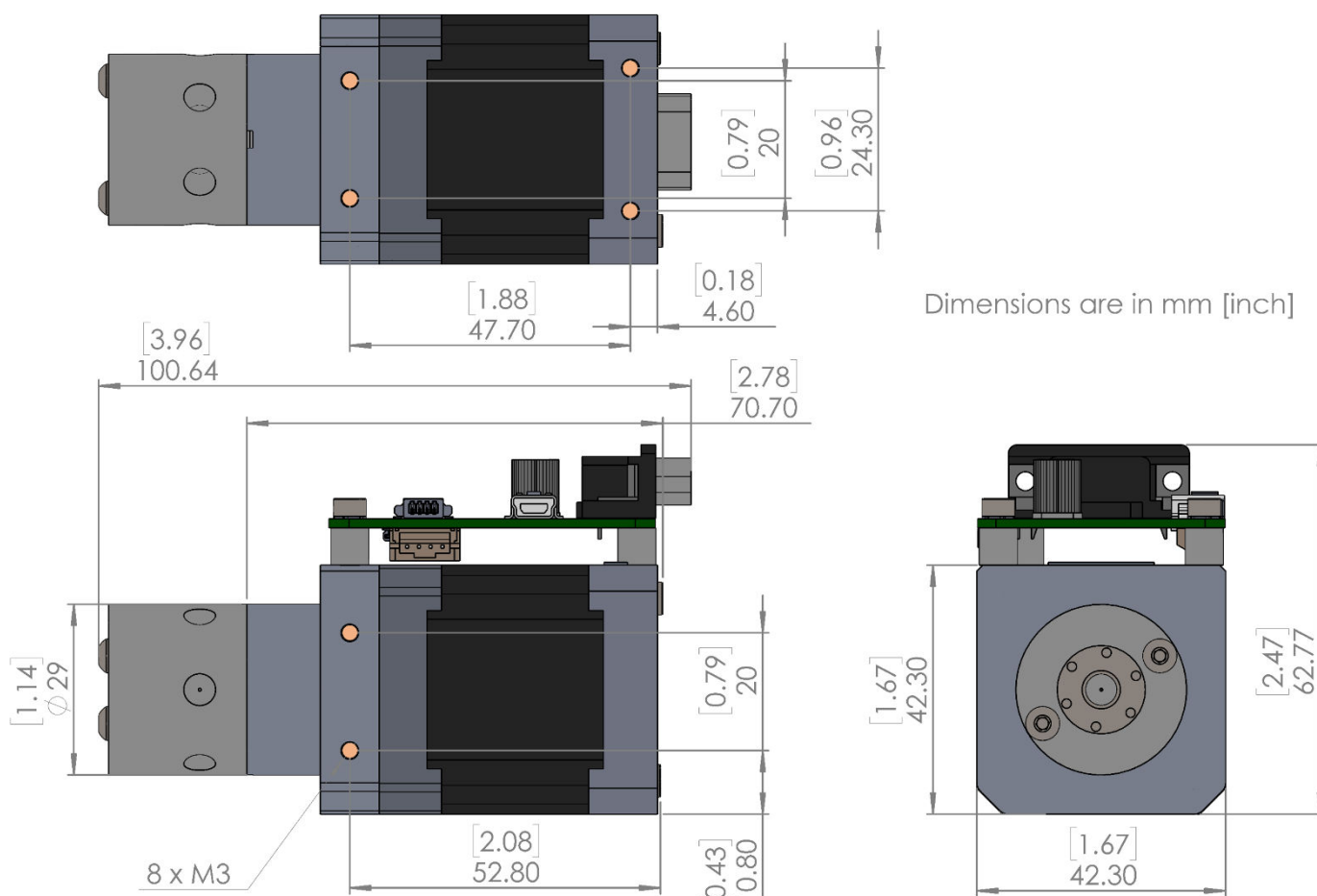
RVM – Ultra-low internal volume rotary valve

DATASHEET



FAST MODULE (Ref. P201-0)

Weight (without valve head)	~450 g
Dimensions	42.3 x 63 x 101 mm
External fixation system	6x M3 screws, position shown in orange
Rotation time for 180°	400 ms
Switching time Port to Port	Down to 136 ms



Electrical characteristics

LOW POWER MODEL (Ref. P200-O)

Power	5-10 VDC, 0.5 A peak
Required cables for operation	USB mini B male to USB A male or custom cable with PicoBlade™ 6 pos. male

DO NOT PLUG THE RVM INTO A USB HUB. Please plug it into a main USB port directly for better performance.

FAST MODEL (Ref. P201-0)

Power	18-24 VDC, 2 A peak
Required cables for operation	USB mini B male to USB A male or custom cable with PicoBlade™ 4 pos. male, and custom power cord

Communication interface

LOW POWER MODEL (Ref. P200-O)

Interface	USB mini B, PicoBlade 6 pos.
Communication type	Serial communication on USB mini I ² C on PicoBlade™ (other upon request)

FAST MODEL (Ref. P201-0)

Interface	USB mini B, PicoBlade 4 pos., DB9 (other upon request)
Communication type	Serial communication on USB mini I ² C on PicoBlade™ RS232 on DB9 (RS485 on DB9 upon request) (other upon request)

Through the USB, 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 recent Windows 7 and above.

RVM – Ultra-low internal volume rotary valve

DATASHEET



SERIAL COMMUNICATION PARAMETERS

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

COMMANDS

A command is in the following format: `/_ + command + R + <CR>`

For example, the pump is initialised with the command Z, so the instruction to send to the pump would be `/_ZR<CR>`

A new command can only be sent once the first one is done, or if an error appears. A *status message* is always sent from the pump, so it is possible to debug the system in case of error. You will find a list of most used commands below. Please refer to the operating manual for an extensive list of commands and error codes.