

# ADVANCED ROTAVALVE DATASHEET

## DISTRIBUTION



Elveflow Advanced RotaValve Distribution is a 1 to 12 ports distribution valve module for sequential injection experiments.

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## General specifications

Dimensions (mm)	<b>99 x 99 x 102 mm</b>
Weight (g)	<b>780 g</b>
Control Center connection	<b>M12 8 pins (shielded cable 25 cm recommended)</b>
Power connection	<b>DC power connector, Plug, 3A, 2.1mm, 12mm</b>
Valve type	<b>12 positions / 13 ports rotative valve</b>
Maximum supported pressure (bar)	<b>7 bar</b>
Fluidic connectors	<b>Standard 1/4-28 UNF, flat-bottom</b>
Wetted materials	<b>PCTFE and PTFE</b>
Port to port switching time (ms)	<b>160 ms</b>
Dead volume (1)	<b>None</b>
Internal diameter (mm)	<b>0.5 mm</b>
Internal volume (2)	<b>3.5 <math>\mu</math>L</b>
Carryover volume (3)	<b>1.7 <math>\mu</math>L</b>
Mounting orientation	<b>Any</b>

(1) Volume that is stuck in the system (dead end), which is not clearly swept and relies on diffusion to clear out

(2) Volume inside the system from entrance to exit

(3) Volume of liquid that will be mixed with the next liquid. It is not stuck, but will be swept next time a liquid passes

## Electrical specifications

Input voltage (V)	<b>24V</b>
Maximum power consumption (W)	<b>45W</b>
Typical power (W)	<b>3 W, 12 W in rotation</b>

## Provided power supply specifications

Supply - Voltage range (V)	<b>100 to 240 VAC</b>
Supply - AC frequency (Hz)	<b>50 to 60 Hz</b>
Output - Maximum current output (A)	<b>2.5A Peak</b>
Output - Maximum power (W)	<b>60W</b>

## Communication specifications

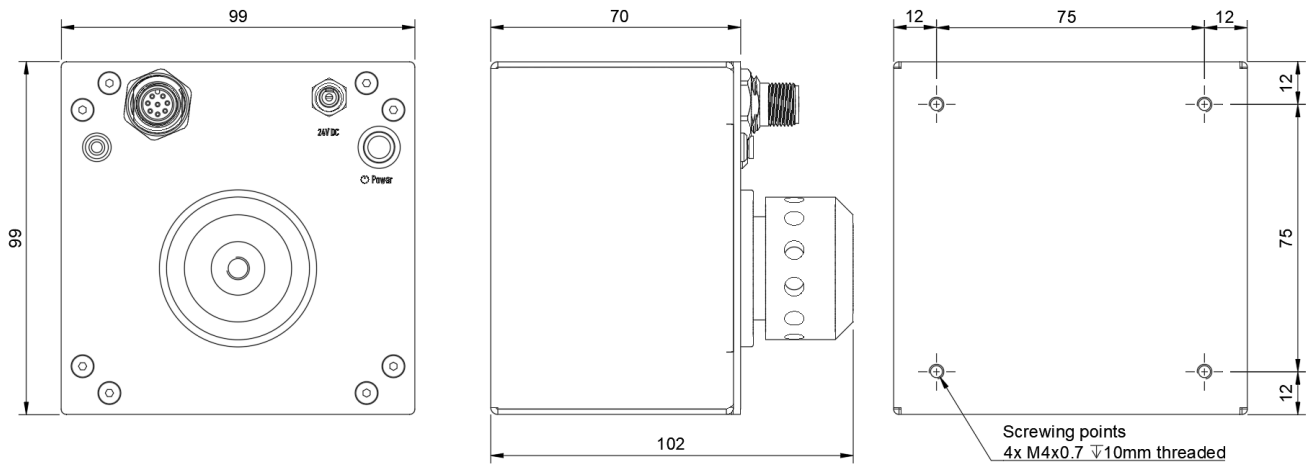
Interface	<b>M12 8 pins</b>
Communication type	<b>Universal Asynchronous Receiver-Transmitter (UART)</b>
Serial communication parameters	<b>230400 bauds</b>

## Control and monitoring

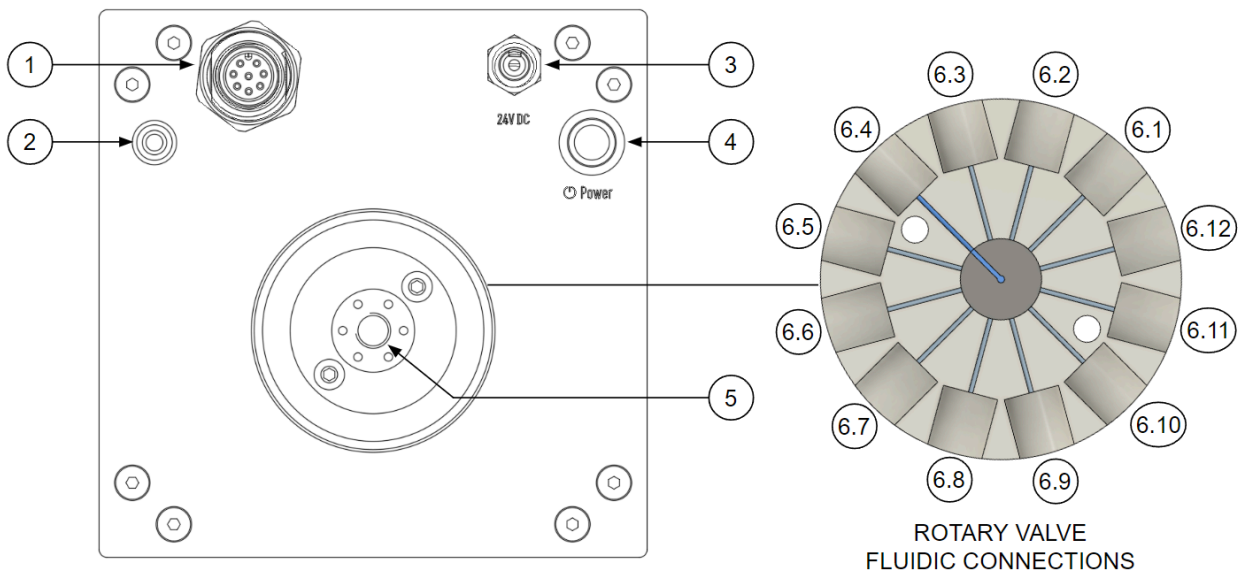
UART commands	<b>Valve position &amp; monitoring</b>
Software control	<b>ESI via a Advanced Control Center only</b>

## Dimensional drawing

(Dimensions in mm)



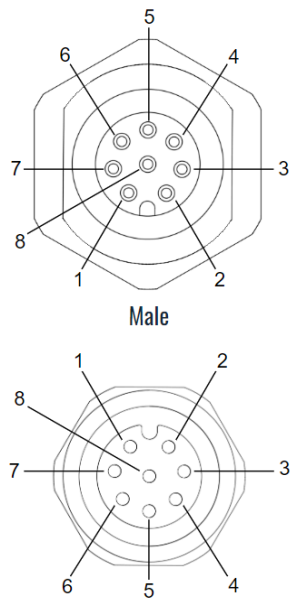
## Connections



1	Connection to Advanced Control Center (or Advanced Hub)	<b>M12 male - 8 pins</b>
2	Communication LED	<b>Green LED - ON when communicating</b>
3	Power button with LED	<b>Green LED - ON when device powered</b>
4	Power supply	<b>Jack 24V DC - 40W</b>
5	Main fluidic port, connected to 1 among 12	<b>1/4-28 UNF Flat bottom</b>
6.x	12 fluidic ports	<b>1/4-28 UNF Flat bottom</b>

## M12 Pin out

1	<b>RX</b>
2	<b>TX</b>
3	<b>Ground</b>
4	/
5	<b>5V DC</b>
6	/
7	<b>Ground</b>
8	<b>24V DC</b>



## Assembly recommendations

Use the four M4 screwing points (see dimensional drawing).

The module can be used in any orientation.