

Rp-01 Piston Pump



Micro piston pump is a type of small volume precision pump with the flexible control options of the encoder, driver, solenoid valve, it is mostly equipped in medical analysis systems for delivering fluid in microliters or milliliters with very high precision, wetted materials are corrosion resistance and biocompatible for most chemicals or solvents, small footprint and high cost performance make it a very special choice for high precision fluid treatment in medical and biological analytical systems.

ZSB-RP01-LS - 1.8 - 1 - 6 - M-Q - F-2

Model No. 1.8°Step motor Lead 1mm Volume 6ml Encoder/Driver Solenoid Valve Hole Quantity

1	single-hole without encoder and driver
M-Q-1	single-hole with encoder and driver
M-Q-F-2	double-hole with solenoid valve, encoder and driver

Technical Parameters

Accuracy	≤1%@100% rated stroke
Precision (Repeatability)	0.3%~0.7% (100% rated stroke)
Service life	3 million times no leakage (media: water; 1 rated stroke=one time)
Initial position detection	Photoelectric detects original piston position
Valve head	Single hole Double-hole with valve
Dead volume	1.45ml 1.716ml
Volume	6ml
Rated stroke (control steps)	19.1mm (3820 steps)
Maximum speed	500rpm
Linear speed	0.017~8.33mm/s
Running time (per rated stroke)	2.292s(500rpm) ~1146s(1rpm)
Resolution	0.005mm/1.5707μl
Cylinder ID	20mm
Actuator	lead screw (lead 1mm)
Wetted material	PC, ceramics, PTFE
Maximum pressure	Positive air pressure 0~0.8Mpa Negative air pressure 0~0.06Mpa (hold time 1min)
Connection	1/4-28UNF female thread
Power supply	DC24V/1.5A
Operating temperature	5~55°C
Operating humidity	<80%
Dimension (L*W*H)	51*41.5*131.5mm (Single hole, Without Encoder/Driver/Solenoid valve)
Weight	0.4kg (Single hole, Exclude Encoder/Driver/Solenoid valve)

Product Function

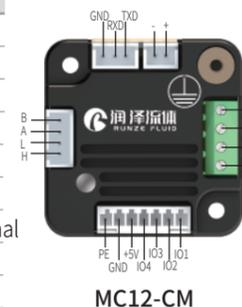
Address setting	Address settable via serial port
Baud rate setting	RS232/RS485/CAN baud rate settable
CAN destination address setting	When multiple devices controlled in paralleling, any device can be set with priority address
Speed setting	1rpm - 500 rpm (air and liquid maybe different)/min
Subdivision setting	Motor subdivision vary from 2 to 32
Reset interior data	Factory reset
Parameter query	Query address, speed, subdivision, baud rate etc.
Version query	Query firmware version
Motor direction	CW/CCW settable
Reset	Return piston to the origin
Strong stop	Strong stop the running motor
Motor status query	Detect current motor status
Power memory	When motor suddenly stops, current position can be queried from the distance between current position with the origin
Collision protection	Upper and nether optocoupler to limit the piston position

Motor Parameter

Max. power	10.8W
Step angle	1.8°
Rated Voltage	3.6V
Rated Current	1.5A
Holding Torque	350mNm
Resistance	2.4Ω±0.24Ω
Inductance	3.6mH
Braking torque	43g·cm
Rotary inertia	80°C MAX
Insulation grade	B
Insulation	100ΩMIN
Current Settings	Output current ≤ Rated current of motor

Driver & Valve Parameters

MC12-CM Driver Port			
Port	Description	Port	Description
H	CANH	B+/B-	Phase B wiring
L	CANL	A+/A-	Phase A wiring
A	RS485 A	IO1	NC
B	RS485 B	IO2	Encoder Phase A
GND	GND	IO3	Encoder Phase B
RX	RS232 data output	IO4	Optocoupler signal
TX	RS232 data input	+5V	Power positive
-	DC24V negative	GND	GND
+	DC24V positive	PE	Grounding



Parameters of Solenoid Valve	
Input Voltage	24V±10%
Starting Current	154mA
Standing Current	42mA
Starting Power	3.7W
Standing Power	<1W
Leak-allowed Current	4mA
Insulation Resistance	100M Ω MIN
Power Light	Red LED
Surge-proof	Surge absorbing diode

Dimension (unit:mm)

