



V 1.0

RZ1030B Peristaltic Pump Manual

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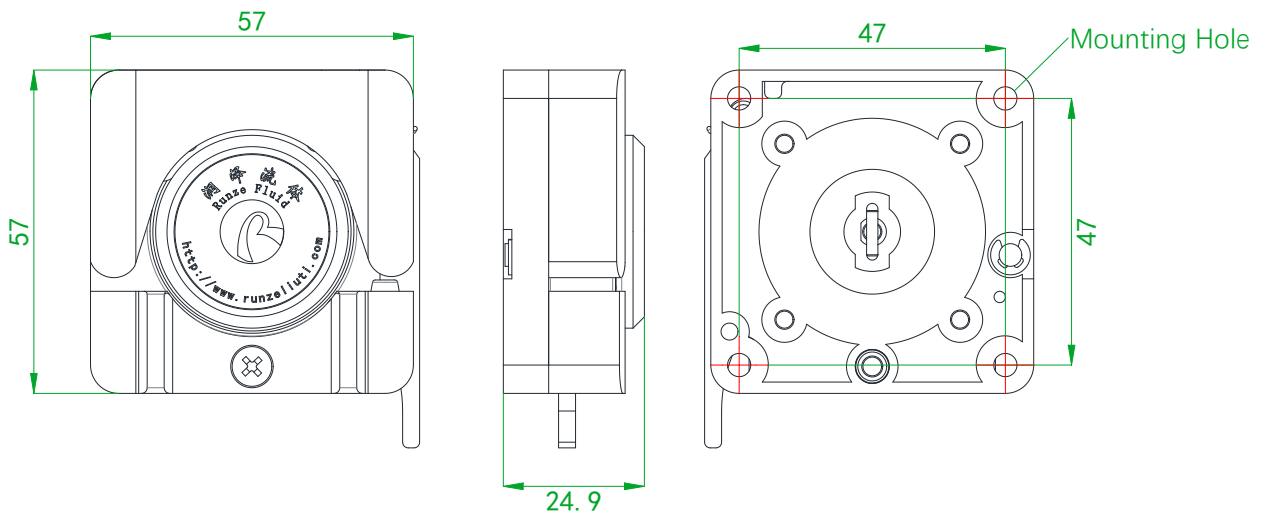
Chapter 1 Product Introduction

1.1 Product Characteristics

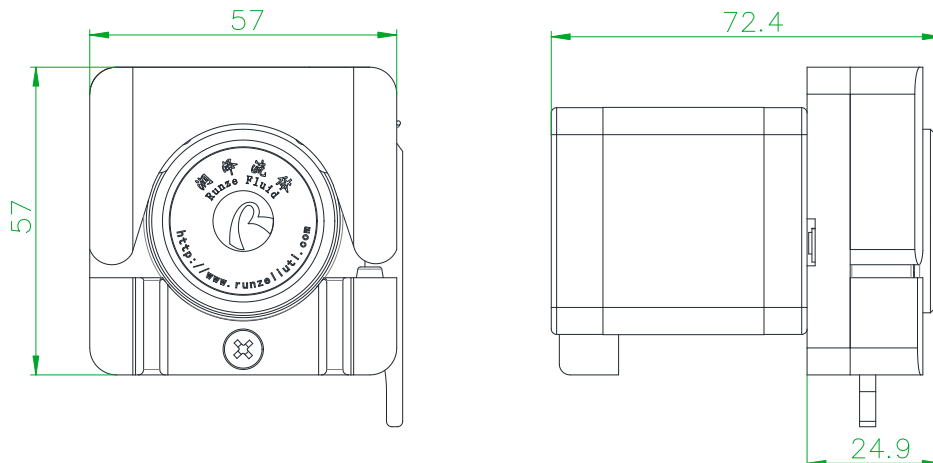
- PPS Housing, excellent structural performance, moderate 4 rotor pulse
- With flexible upper pressure block, self-adapting to different hoses, easy to change the tube
- Mainly used for medical devices and various small flow liquid transfer analysis instruments
- OEM support
- Outlet pressure at 0.2-0.3 MPa, Hydraulic head (pressured water approx. 20m)
- Suction range = atmospheric pressure (standard 10.33m) - cavitation margin of the pump - inlet tube loss - safety margin (0.5) - cavitation pressure of the medium

1.2 External and Mounting Dimensions (Unit: mm)

1.2.1 Pump Head External and Mounting Dimension



1.2.2 Pump External and Mounting Dimension



Chapter 2 Technical Parameters of Peristaltic Pump

2.1 Flow Curve Chart

| Model | RZ1030B | | | | | | | | | | | | | |
|------------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| WT (mm) | 0.8 | | | | | | | | | | | | | |
| ID (mm) | 0.64 | 0.76 | 0.89 | 1.02 | 1.14 | 1.30 | 1.42 | 1.52 | 1.65 | 1.85 | 2.06 | 2.29 | 2.54 | 2.79 |
| Max Flow Rate (ml/min) | 12 | 15 | 18 | 25 | 32 | 38 | 47 | 50 | 56 | 70 | 87 | 94 | 113 | 128 |
| WT (mm) | 1.0 | | | | | | | | | | | | | |
| ID (mm) | 1.0 | | | | 2.0 | | | | | 3.0 | | | | |
| Max Flow Rate (ml/min) | 24 | | | | 74 | | | | | 183 | | | | |

2.1.1 RZ1030B Maximum Reference Flow Curve for 0.8mm WT Pump Tube

| Flow RPM | Model Pharmed BPT-0279-008 |
|----------|-------------------------------|
| 1rpm | 1 ml/min |
| 50rpm | 18 ml/min |
| 100rpm | 33 ml/min |
| 150rpm | 46 ml/min |
| 200rpm | 63 ml/min |
| 250rpm | 79 ml/min |
| 300rpm | 93 ml/min |
| 350rpm | 109 ml/min |
| 400rpm | 128 ml/min |

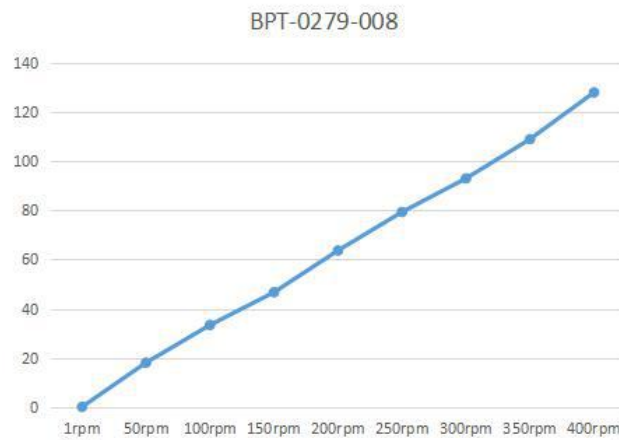


Figure 2-1-1 RZ1030B Flow-Speed Curve

2.1.2 RZ1030B Maximum Reference Flow Curve for 1.0 mm WT Pump Tube

| Flow RPM | Model Pharmed BPT0279-008 |
|-------------|---------------------------------|
| 1rpm | 1 ml/min |
| 50rpm | 23 ml/min |
| 100rpm | 46 ml/min |
| 150rpm | 70 ml/min |
| 200rpm | 94 ml/min |
| 250rpm | 119 ml/min |
| 300rpm | 141 ml/min |
| 350rpm | 165 ml/min |
| 400rpm | 183 ml/min |

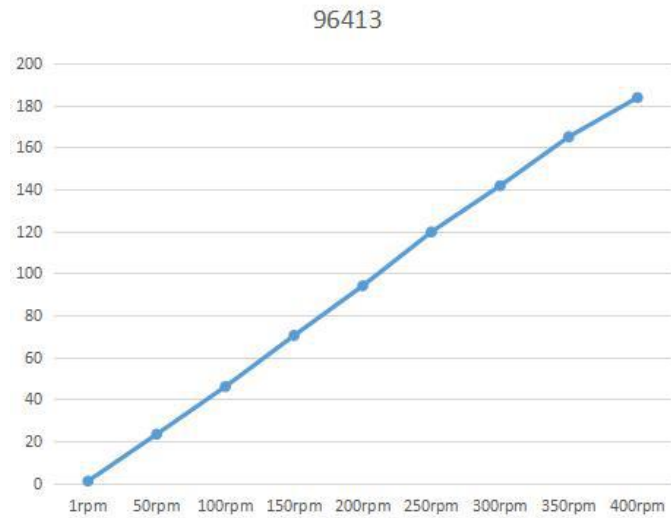


Figure 2-1-2 RZ1030B Flow-Speed Curve

2.2 Motor Parameters

2.2.1 Motor Features

| Description | Parameters |
|-----------------------|-------------|
| Rated Voltage | 24V |
| Rated Current | 1.1A |
| Maximum Output Power | 10.1W |
| Motor Step Angle° | 1.8° |
| Angle Error | 1.8°±0.09° |
| Input Impedance | 4.2Ω±0.42Ω |
| Operating Temperature | -10C°~+50C° |
| Motor Weight | 350g |

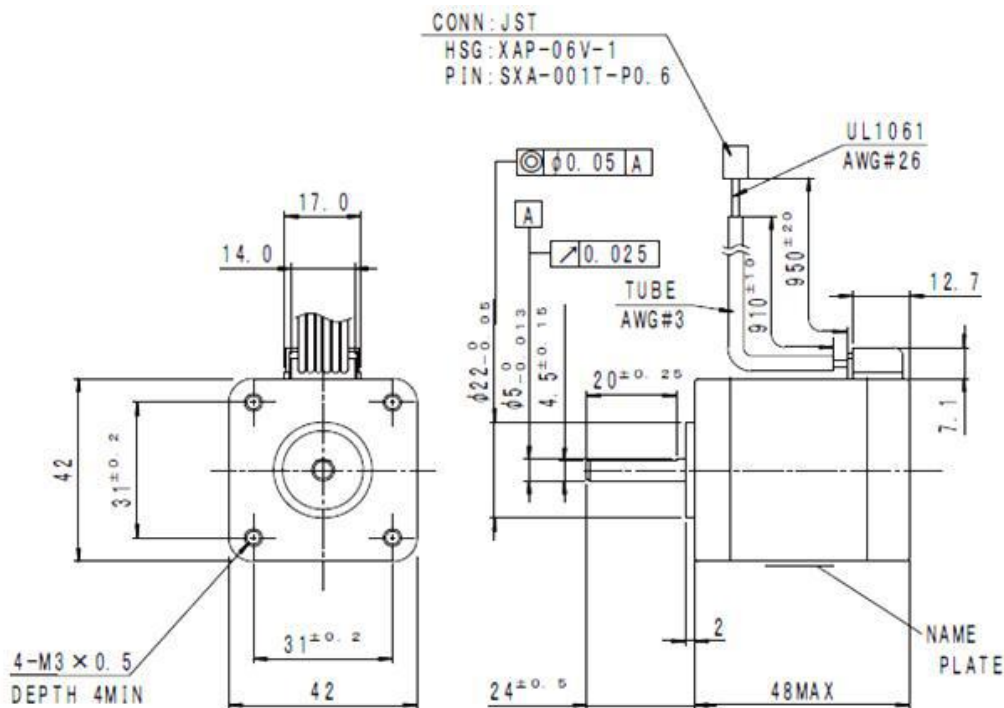
2.2.2 Motor Wiring

| Properties | Wiring color |
|------------|--------------|
| A+ | RED |
| A- | YELLOW |
| B+ | BLUE |
| B- | ORGANGE |

2.2.3 Motor Reliability

| No. | Test Project | Test Conditions | Reference Specification |
|-----|--|---|-------------------------|
| 1 | Low temperature setting (cold resistance) | Temperature: $-40\text{C}^{\circ}\pm 3\text{C}^{\circ}$ Test time: 96h | JIS C 60068-2-1 |
| 2 | High temperature setting (heat resistance) | Temperature: $85\text{C}^{\circ}\pm 2\text{C}^{\circ}$ Test time: 96h | JIS C 60068-2-2 |
| 3 | High temperature and high humidity setting (humidity resistance) | Temperature: $60\text{C}^{\circ}\pm 2\text{C}^{\circ}$ ($40\text{C}^{\circ}\pm 2\text{C}^{\circ}$) Humidity: $93\%+2/-3\%$ Test time: 96h | JIS C 60068-2-3 |
| 4 | Hot and cold operation (temperature change) | Temperature: low temperature test $-40\text{C}^{\circ}\pm 3\text{C}^{\circ}$ 1h (Temperature change time: within 5min) High temperature test: $85\text{C}^{\circ}\pm 2\text{C}^{\circ}$ 1h Cycle index: 25 times | JIS C 60068-2-14 |
| 5 | Vibration | Range of vibration number: 10Hz~55Hz~10Hz Amplitude: 1.5mm] Vibrating direction: X.Y.Z Time: 2h in each direction | JIS C 60068-2-6 |
| 6 | Dropping | 981 acceleration m/s^2 sine half wave Action time: 6ms Falling direction: $\pm X, \pm Y, \pm Z$ Number of falling rounds: 3 rounds each | JIS C 60068-2-27 |

2.2.4 Motor Dimension



Chapter 3 Hose Assembly

Tip: Hose can be greased with certain amount of grease to prolong its service life



Step 1
Open the spring lock



Step 2
Open the upper pressure block



Step 3
Install the pump hose, and
keep fittings on the two ends
of the hose stuck to the pump
head



Step 4
Close upper pressure block



Step 5
Installation complete

Chapter 4 Technical Service



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