



Analysis instrument accessories  
Ecological closed loop service provider



V 1.0

# RZ1030B Peristaltic Pump Manual

南京润泽流体控制设备有限公司  
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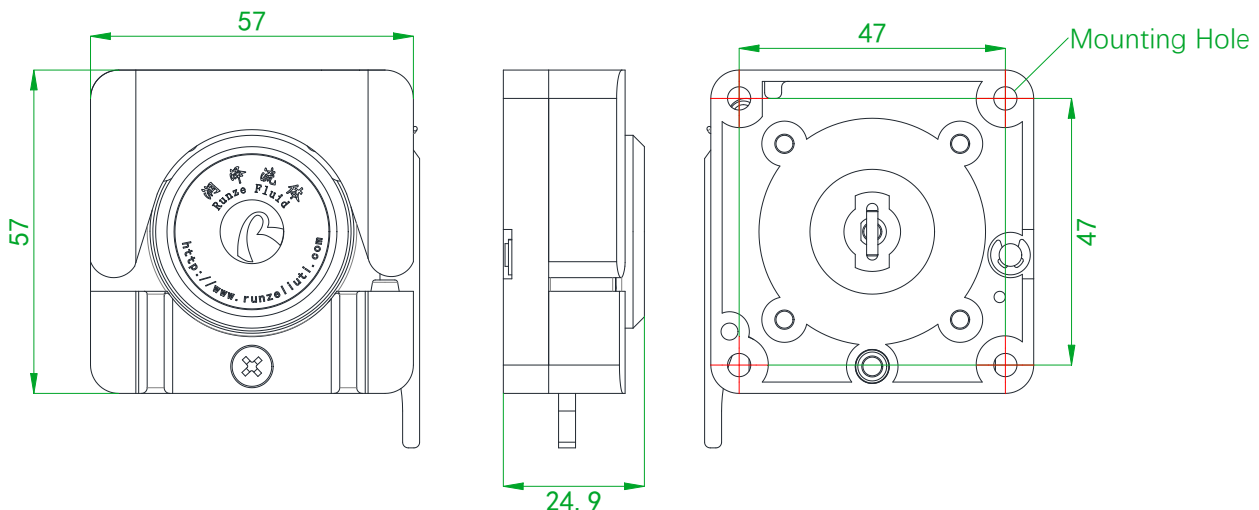
# Chapter 1 Product Introduction

## 1.1 Product Characteristics

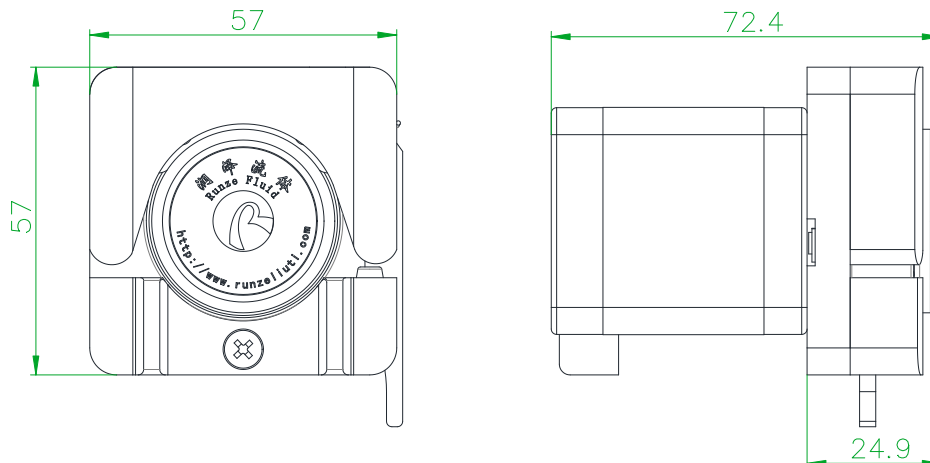
- PPS Housing, excellent structural performance, moderate 4 rotor pulse
- With flexible upper pressure block, self-adapting to different hoses, easy to change the tube
- Mainly used for medical devices and various small flow liquid transfer analysis instruments
- OEM support
- Outlet pressure at 0.2-0.3 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 Model<br>RPM | 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           |

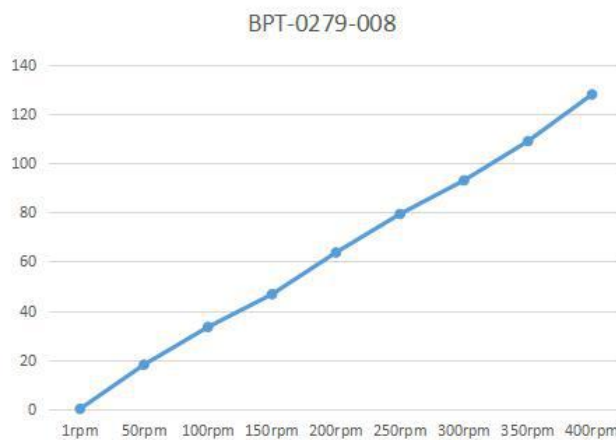


Figure 2-1-1 RZ1030B Flow-Speed Curve

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

| Flow<br>RPM | Model<br>Pharmed<br>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                      |

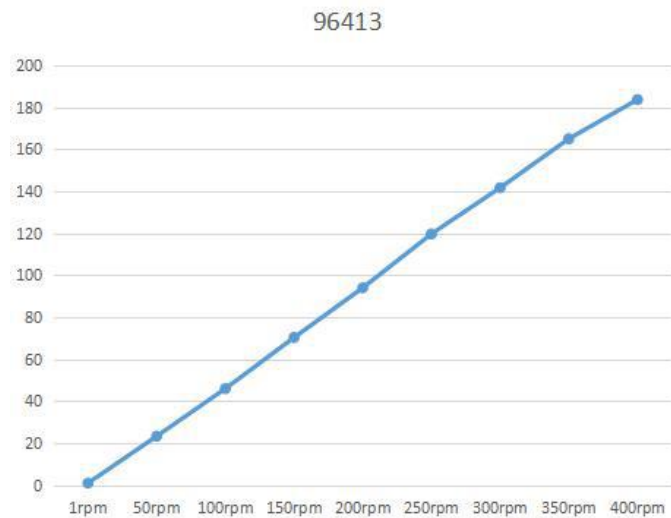


Figure 2-1-2 RZ1030B Flow-Speed Curve

## 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        |

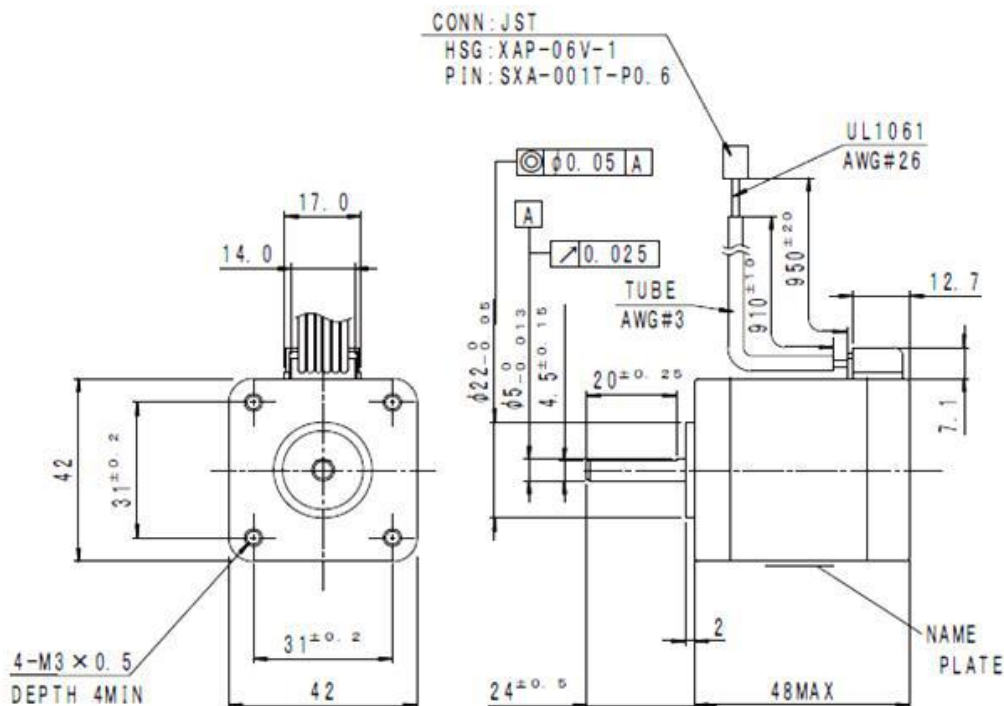
### 2.2.2 Motor Wiring

| 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<br>(cold resistance)                           | Temperature: $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$<br>Test time: 96h                                                                                                                                                 | JIS C 60068-2-1         |
| 2   | High temperature setting<br>(heat resistance)                          | Temperature: $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$<br>Test time: 96h                                                                                                                                                  | JIS C 60068-2-2         |
| 3   | High temperature and<br>high humidity setting<br>(humidity resistance) | Temperature: $60^{\circ}\text{C}\pm 2^{\circ}\text{C}$ ( $40^{\circ}\text{C}\pm 2^{\circ}\text{C}$ )<br>Humidity: $93\%\pm 2\% - 3\%$<br>Test time: 96h                                                                   | JIS C 60068-2-3         |
| 4   | Hot and cold operation<br>(temperature change)                         | Temperature: low temperature test $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 1h<br>(Temperature change time: within 5min)<br>High temperature test: $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$ 1h<br>Cycle index: 25 times | JIS C 60068-2-14        |
| 5   | Vibration                                                              | Range of vibration number: 10Hz~55Hz~10Hz<br>Amplitude: 1.5mm]<br>Vibrating direction: X.Y.Z<br>Time: 2h in each direction                                                                                                | JIS C 60068-2-6         |
| 6   | Dropping                                                               | 981 acceleration $\text{m/s}^2$ sine half wave<br>Action time: 6ms<br>Falling direction: $\pm X, \pm Y, \pm Z$<br>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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