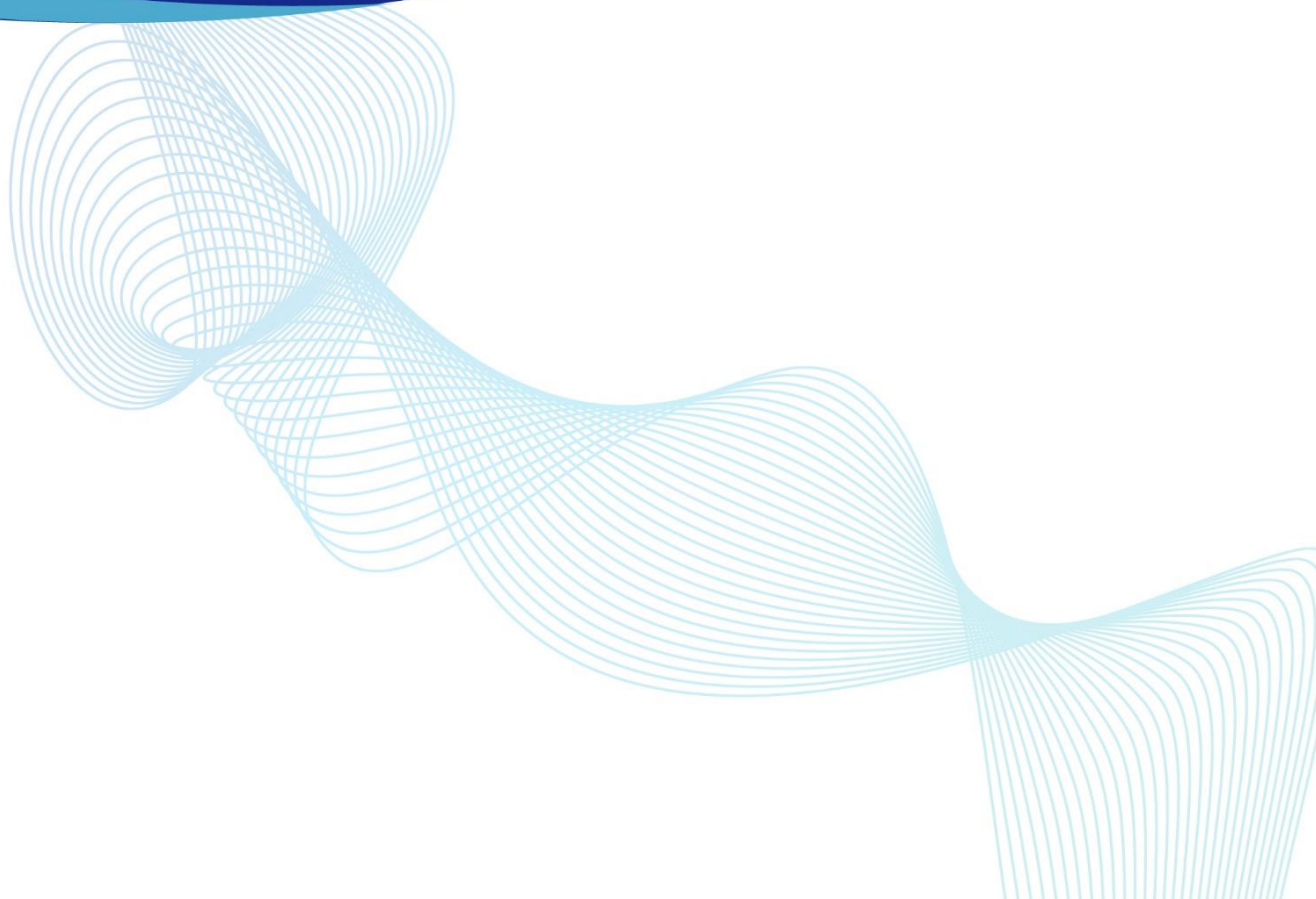
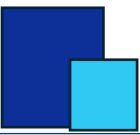




# BP405 Explosion-Proof Peristaltic Pump User Manual





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## Safety Precautions!

To prevent fire, electric shock or personal injury when using this product, please follow the following safety precautions:

1. Please turn off the driver power before installing (or removing) the pump head and tube, otherwise your fingers or clothes may be entangled in the driver;
2. Please turn off the power before connecting the external control device, otherwise the equipment may be damaged;
3. This product should be installed on a stable surface, otherwise the product may collapse due to vibration and cause damage;
4. This product should be installed in a protected place to prevent anyone from stepping on the connecting wires or tripping over the connecting wires, causing damage to the connecting wires or personal injury;
5. Before cleaning this product, please unplug the power plug from the socket;
6. Do not disassemble, change or repair this product without permission. If necessary, please contact Duoning Field Service Team.

## Cautions:

1. Before using this product, please read carefully and fully understand the contents of this manual;
2. Before using this product, please read and follow the instructions in the safety precautions carefully;
3. The tubes are consumable materials. Long-term use may cause rupture due to fatigue, resulting in liquid leakage. Please check and replace the tubes in time.
4. Take care to keep this manual.



### Warning!

- This product may be interfered by electromagnetic fields and cause malfunction in certain special industrial environments or near radio transmitting devices.
- Non-professionals are not allowed to open the enclosure of this product, this may affect the normal after-sales service of the product.

## 1. Overview

This product is an explosion-proof peristaltic pump, used in industrial places where require explosion-proof protection. It consists of a pump head, a motor, and a frequency converter (option); The product features ExdIIBT4 explosion-proof level, and the IP55 protection level of waterproof and dustproof.

**Product images are as follows:**



**This series of products mainly consists of three parts:**

- Pump head: YZ35
- Explosion-proof motor: YBBP-71M2-4-0.37KW-B35
- Frequency converter: 6SL3210-1KE11-8UF2

## 2. Product introduction

### 2.1. Product functions

- The pump adopts an isolated explosion-proof motor and is recommend being used in places with flammable and explosive gas may presented;


**Note:** Before use, please be sure to confirm that the explosion-proof level of the explosion-proof pump meets the requirements for use in corresponding explosive gas environments.

- The pump adopts three-phase asynchronous motor with strong power and the rated speed of the motor is 1500rpm.
- This motor is a variable speed motor and needs to be equipped with a frequency converter to achieve stepless speed regulation; since the speed cannot exceed 600 rpm, this motor cannot be directly connected to the power frequency and must be connected to a frequency converter to work with frequency regulation in the 1.66Hz-20Hz range.

### 2.2. Technical specifications

The detailed technical parameters of the product are shown in the table below:

Model	BP405-YZ35
Explosion-proof motor	YBBP-71M2-4-0.37KW-B35//0.37 KW 1500 r/min
Speed range	50 - 600 rpm (Corresponding frequency 1.66Hz-20Hz)
Speed resolution	1.5 rpm
Frequency converter	6SL3210-1KE11-8UF2 (AC380VC 5.5KW)
Control method	Panel/Terminal/Analog/485 Communication Control
Applicable power supply	380VAC//
Power consumption	Drive power consumption BP405-YZ35 $P \leq 0.37KW$ With frequency converter, the calculation should be based on the power of the frequency converter G120C rated power 5.5KW
Working environment	Temperature 0 - 40°C, relative humidity $\leq 80\%$
Applicable pump head	YG15/YZ35
Level of protection	IP55



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<b>Model</b>	<b>BP405-YZ35</b>
Flow range	For details, please refer to the "Product Technical Specifications"
Enclosure	Plastic spraying on metal surface

## 3. Operation and use instructions

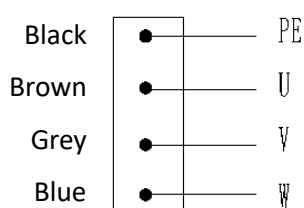
### 3.1. Installation and uninstallation of the product

The product is pre-installed with a 10-meter connecting cable between the motor and the inverter (the user can customize a reasonable cable length according to the actual use environment on site). The inverter must be installed in a non-explosion-proof area. If the user needs to install the power supply cable by him/herself, be sure to open the chassis and motor junction box and remove the original pre-installed cables (cannot extend the wiring on the original pre-installed cables); reinstall the cables according to the instructions for use of the explosion-proof motor. Be sure to refer to the pre-installed cable specifications for newly installed cable specifications to avoid failure to install or failure to meet explosion-proof requirements after installation; non-professionals are not allowed to install and uninstall the system.

### 3.2. Explosion-proof motor wiring

1. The motor wires are divided into U/V/W/PE, and the internal Y-type connection is fixed;
2. The phase sequence U, V, W of the motor corresponds to the phase sequence A.B.C of the connected external power supply. The rotating direction of the motor is clockwise when viewed from the shaft. Otherwise, the motor will rotate in reverse direction when the direction of rotation is different from the requirement, the motor direction can be changed by adjusting any two phases of the external power supply. The picture below shows the wiring diagram.

Definition of lead wire color: brown U, gray V, blue W, black PE;



#### \*Notes before startup

1. Before starting for the first time, the insulation resistance between the stator winding and the casing should be checked. Its value should not be less than 5M ohms, and the resistance between the two should be equal;
2. If the motor does not rotate after closing, quickly turn off the switch to avoid burning the motor. After finding out the cause and fixing it, start the motor again.



### 3.3. Explosion proof pump wiring

*\*The wiring here requires a frequency converter or explosion-proof control box (optional);*

1. Configuration (6SL3210-1KE11-8UF2) explosion-proof pump is L1/L2/L3/PE, power supply interface is 380VAC.





## 4. Maintenance and repair

### 4.1. Product maintenance

- If the peristaltic pump won't be used for a long time, the tube should be removed.
- The enclosure should be kept clean and wiped with a soft cloth dipped in clean water.

**Note:** Please do not use alcohol to clean the enclosure.

### 4.2. Product repair

Before repairing the product, please get familiar with and master the correct operation, external connection methods and various working conditions of the product to eliminate faults caused by human factors. Common faults and solutions are shown in the table below:

Fault	Cause of fault	Troubleshooting	Note
The pump roller rotates but cannot deliver liquid.	Check whether the tube is fixed in place; whether the tube is damaged or leaking.	Adjust the tube clamps on both sides of the pump head; replace with new tubes.	
During operation, the tube slides to one side along with the roller.	Check whether the tube clamp is fixed and whether it is fixed well.	Adjust the tube clamp and fix it in place.	



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## 5. After-sales service

1. If this product does have quality problems within three months from the date of purchase, Duoning will be responsible for replacing it;
2. This product will be repaired free of charge within one year from the date of purchase;
3. After the warranty period, if the user cannot solve the fault by him/herself, please contact the distributor or Duoning to get preferential repair service;
4. Failures caused by the following reasons are not covered by warranty services: Refitting by end-users, overload operation, improper maintenance, operating environment that does not meet requirement of product specifications, operation beyond the voltage range, and failure to wire correctly, etc.



## Duoning Biotechnology Group

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