

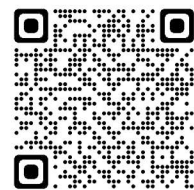


**Official Website:**

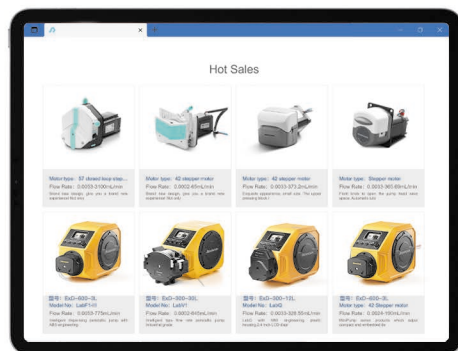
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[www.innofluid.com](http://www.innofluid.com)



OFFICIAL WEBSITE



**ExD Series**

*Redefine Explosion Proof Peristaltic Pump*





# ExD series

- A new category of peristaltic pump based on explosion proof standards.
- The whole pump is explosion proof, reaching II2G Ex db IIC T4 Gb and II2D Ex tb IIC T130°C Db explosion proof levels at the same time.
- Intelligent control system to realize high precision transferring and dispensing.



VS



Assembled products with parts

ExD series explosion proof peristaltic pump

	Explosion proof motor type	ExD series
Explosion proof method	Explosion proof motor and Explosion proof control box	Overall explosion proof
Speed range(rpm)	180-600 / 60-600	0.1-600
Speed revolution(rpm)	——	0.1
Display	——	4.3-inch color LCD screen
Control	External frequency converter control	Manual, External signal, Communication
Intelligent dispensing mode	——	Automatic filling and dispensing
Flow rate	——	Display both speed and flow rate
Intelligent calibration	——	Input actual volume and calibrate automatically
Power consumption	370W	300W
Drive weight	≥40kg	30.1kg
IP rate	IP55	IP66



### Integrated casting body

- The unique casting reinforced structure and integrated design have successfully passed the "No explosion transmission" test of the IIC level of the national testing center to ensure safety.
- The cast aluminum shell has a tensile strength of 280MPa after heat treatment, which greatly reduces the overall weight and volume of the pump while ensuring strength and safety.
- The hidden design of the flange explosion proof surface combined with the sunken design of the flange fastening screws changes the appearance of traditional explosion proof products.
- The cast aluminum shell has good heat dissipation performance and no additional heat dissipation device is required.

### Three-proof button and knob system: explosion-proof, dustproof, waterproof

- Button dust cover: Double layer protection to ensure dustproof and waterproof effect.
- Concave button design: It conforms to ergonomics and fits more comfortably with fingers.

### The identification system has been fully upgraded

- The logo pattern on the pump head and operation panel adopts laser engraving technology to eliminate the hidden danger of static electricity of traditional plastic masks.

### Intelligent operation system

- 4.3-inch color LCD screen, easy operation.
- Dynamic display working status.
- Flow rate, setting parameters and system configuration are displayed in the same screen.
- Intelligent calibration function.
- Multiple external control methods meet remote control requirements.

### Passed EMC test

### excellent anti-electromagnetic interference capability

- Comply with safety regulations:  
IEC61000-6-2  
IEC61000-6-4  
IEC61000-3-2  
IEC61000-3-3

### The whole pump is IP66, designed for industrial environment

- More than 90% of the pump body sealing surface of the pump body is sealed by O-ring, which has self-sealing characteristics.
- Passed the IP66 protection level test, easily cope with hot and humid working environment.

### AC servo motor control system

- AC servo motor, high precision, high torque and smooth operation.
- Under full load:  
ExD-300-30L (with DZ45 pump head): Motor temperature rise 25 °C  
ExD-600-12L (with YZ35 pump head): Motor temperature rise 15 °C



### IP66 IP66 Protection Level



### Intelligent Operation System



### External Control Interface







### Precise dripping of chemical drug in explosion-proof production workshop

In the titration process of chemical drug production, customers have been using liquid level tanks to drip acetone or ethanol solutions. This method is less accurate. Because this process is used to transport ethanol and acetone, the equipment is required to be explosion-proof and corrosion-resistant. Using ExD-600-12L explosion proof peristaltic pump to achieve precise control and accuracy of  $\pm 1\%$ .



### 95% ethanol sub-package production

The customer has been using the explosion proof motor and piston pump to dispensing ethanol. When producing products of different specifications, complicated equipment adjustment work is required, which takes about 2-3 hours. The customer's equipment transformation replaces the sub-package pump with ExD-600-6L. For each replacement, it only needs to adjust the parameters on the control panel of the pump, and it only takes 5 minutes at most.



### Catalytic validation equipment and simulation pilot production equipment validation device sampling for chemical enterprises

In the process of validating catalysts and simulating oil production, chemical enterprises need sampling pumps for accurate injection. A lot of electromagnetic interference signals will be generated in the field cause of multiple devices running in a centralized manner. And many similar products in the market cannot meet the demand. ExD-600-12L peristaltic pump achieves accurate sampling through good anti-interference ability on site.



ExD series





# Redefine Explosion Proof Peristaltic Pump



## Explosion Proof Peristaltic Pump

Application: Inflammable and explosive sites, including chemistry, pharmaceutical industry, etc.

**IP66**

### Technical Specifications

- | Standard: GB/T3836.1-2021, GB/T3836.2-2021, GB/T3836.31-2021, GB/T 4208-2017, Q/BSC03-2022
- | Housing material: Aluminum Alloy
- | Speed range:  
ExD-600 series: 0.1-600rpm  
ExD-300 series: 0.1-300rpm
- | Speed resolution: 0.1rpm
- | Display: 4.3 inch -Industrial grade - True color LCD screen
- | Control: Mechanical button, explosion proof knob, external control signal and communication.
- | Working mode: Flow rate mode, Dispensing mode.
- | Flow rate mode: Continuous transferring according to the set flow rate or motor speed.
- | Dispensing mode: Set the dispensing volume, dispensing time, pause time and repeat numbers.
- | Dispensing volume: 0.1mL-9999L
- | Dispensing time: 0.1sec-9999hour
- | Pause time: 0.5sec-9999hour
- | Repeat number: 1-9999 times, 0 represent unlimited
- | Calibration function: Input actual volume and calibrate automatically
- | Back suction angle: 0-360°
- | Communication: RS485
- | Communication protocol: Modbus protocol(RTU mode)
- | External control speed signal: 0-5V, 0-10V, 4-20mA optional
- | External control signal input: Active switch signal (5-24V) control start/stop, direction and full speed; Passive switch signal control start/stop.
- | External control signal output: Open collector output working status
- | Drive dimension (LxWxH): 458x285x335mm
- | Power supply: AC220V±10%, 50Hz
- | Rated power: 300W
- | Relative humidity: <90%
- | Condition temperature: 0-40°C
- | IP rate: IP66
- | Drive weight: 30.1kg

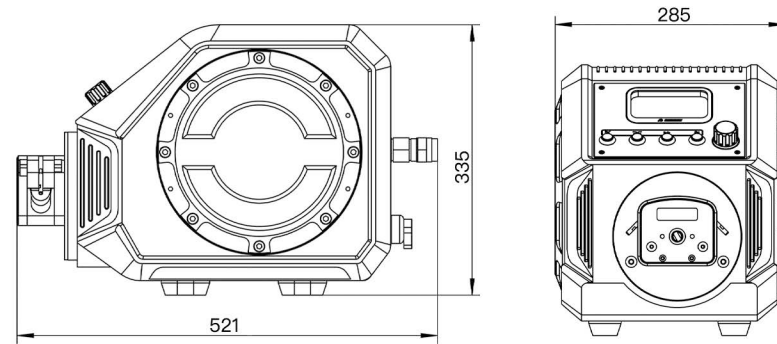


## ExD Series Explosion Proof Peristaltic Pump

### Pump Head



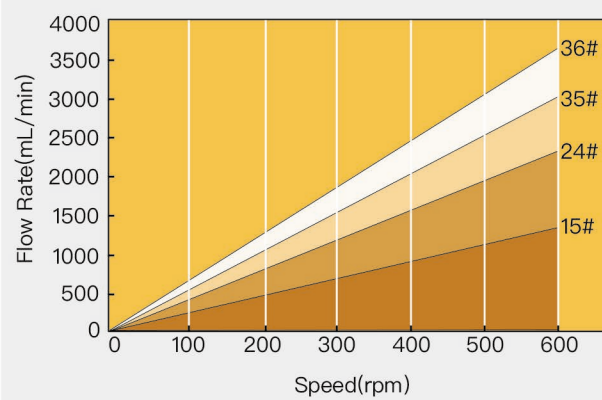
### Dimension Drawing(Unit:mm)



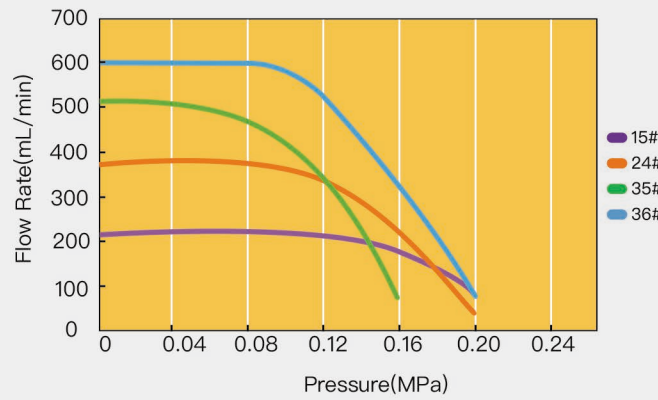
### DZ25-3L Flow Rate

Drive	Pump Head	Housing Material	Tube Clamp Material	Tubing		mL/r	Speed (rpm)	Flow Rate (mL/min)	Weight (kg)
				Size	IDxWall Thickness				
ExD-600-3L	DZ25-3L	Aluminum alloy	Polyamide	15#	4.8x2.4(mm)	2.11	0.1-600	0.211-1264	1.16
				24#	6.4x2.4(mm)	3.85		0.385-2310	
				35#	7.9x2.4(mm)	5.08		0.508-3050	
				36#	9.6x2.4(mm)	6		0.6-3600	

### Flow Rate(0.1-600rpm)



### Pump Head Pressure/Flow Rate Curve(100rpm)



### DZ25-3L Filling Volume Reference Parameter

Drive	Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy(±%)	Output (pcs/min)	Motor Speed(rpm)
ExD-600-3L	DZ25-3L	15#	20	1.2	0.5	27	473.9
		24#	40	1.5	0.5	24	415.6
		35#	50	1.5	0.5	24	393.7
		36#	70	2	0.5	20	350.0

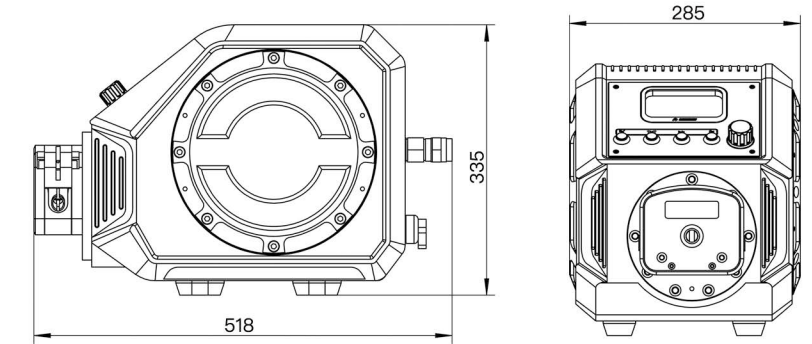
Experimental conditions: standard atmospheric pressure, room temperature at 20°C, the liquid is pure water, no pressure, no suction and lift.  
Note: Actually, it is affected by many factors such as transmission medium, inlet and outlet pressure, hose material and error, working environment, etc. This data is for reference only.

## ExD Series Explosion Proof Peristaltic Pump

### Pump Head



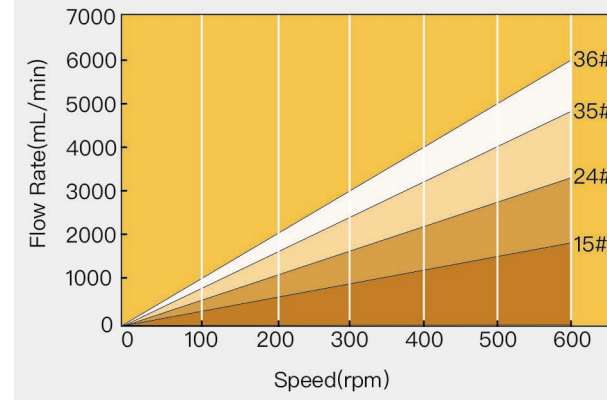
### Dimension Drawing(Unit:mm)



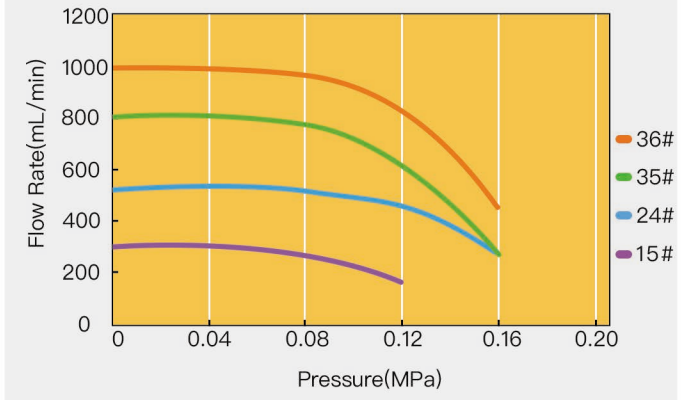
### DZ25-6L Flow Rate

Drive	Pump Head	Housing Material	Tube Clamp Material	Tubing		mL/r	Speed (rpm)	Flow Rate (mL/min)	Weight (kg)
				Size	IDxWall Thickness				
ExD-600-6L	DZ25-6L	Aluminum alloy	Polyamide	15#	4.8x2.4(mm)	3	0.1-600	0.3-1800	1.87
				24#	6.4x2.4(mm)	5.5		0.55-3300	
				35#	7.9x2.4(mm)	8		0.8-4800	
				36#	9.6x2.4(mm)	10		1-6000	

### Flow Rate(0.1-600rpm)



### Pump Head Pressure/Flow Rate Curve(100rpm)



### DZ25-6L Filling Volume Reference Parameter

Drive	Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy(±%)	Output (pcs/min)	Motor Speed(rpm)
ExD-600-6L	DZ25-6L	15#	30	1.2	0.5	27	500.0
		24#	50	1.2	0.5	27	454.6
		35#	70	1.2	0.5	27	437.5
		36#	100	5	0.5	24	400.0

Experimental conditions: standard atmospheric pressure, room temperature at 20°C, the liquid is pure water, no pressure, no suction and lift.  
Note: Actually, it is affected by many factors such as transmission medium, inlet and outlet pressure, hose material and error, working environment, etc. This data is for reference only.

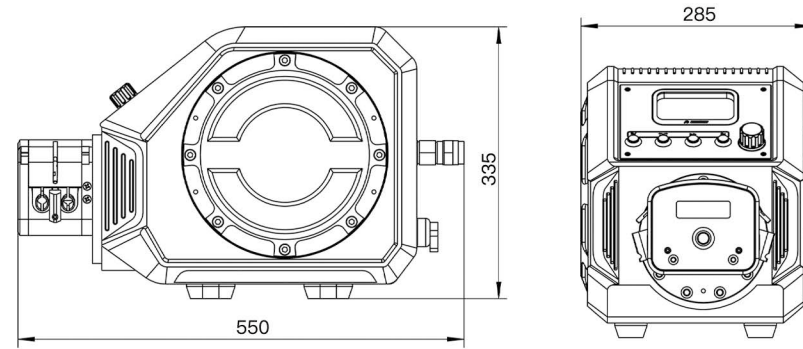


# ExD Series Explosion Proof Peristaltic Pump

## Pump Head



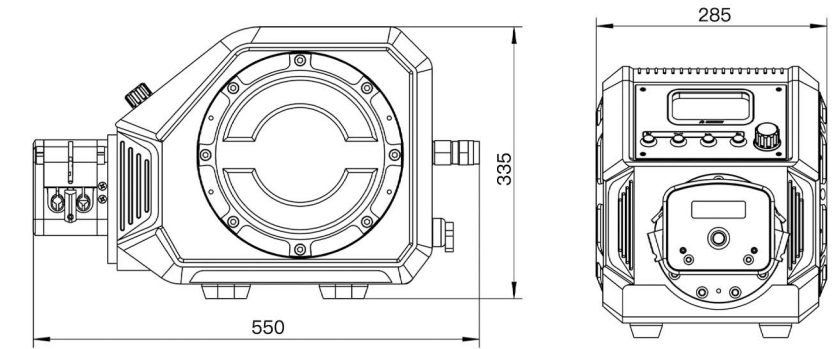
## Dimension Drawing(Unit:mm)



## Pump Head



## Dimension Drawing(Unit:mm)



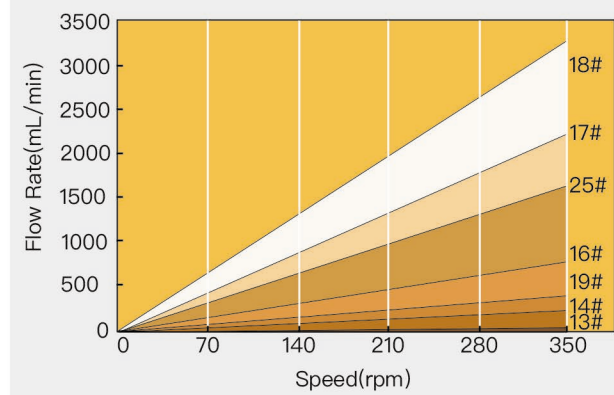
### DY15 Flow Rate

Drive	Pump Head	Housing Material	Tube Clamp/Connector Material	Tubing		mL/r	Speed (rpm)	Flow Rate (mL/min)	Weight (kg)
				Size	IDxWall Thickness				
ExD-600-6L	DY15	Aluminum alloy	Polyamide	13#	0.8x1.6(mm)	0.14	0.1-350	0.01-48	3.2
				14#	1.6x1.6(mm)	0.64		0.06-223	
				19#	2.4x1.6(mm)	1.28		0.13-448	
				16#	3.1x1.6(mm)	2.07		0.2-723	
				25#	4.8x1.6(mm)	4.65		0.47-1626	
				17#	6.4x1.6(mm)	6.37		0.64-2230	
				18#	7.9x1.6(mm)	9.53		0.95-3337	

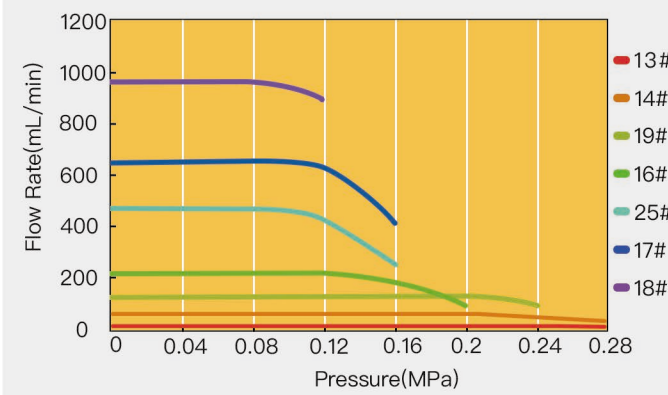
### DY25 Flow Rate

Drive	Pump Head	Housing Material	Tube Clamp/Connector Material	Tubing		mL/r	Speed (rpm)	Flow Rate (mL/min)	Weight (kg)
				Size	IDxWall Thickness				
ExD-600-6L	DY25	Aluminum alloy	Polyamide	15#	4.8x2.4(mm)	4.23	0.1-350	0.42-1480	3.2
				24#	6.4x2.4(mm)	7.63		0.76-2670	
				35#	7.9x2.4(mm)	10.29		1.03-3600	
				36#	9.6x2.4(mm)	12.40		1.24-4340	

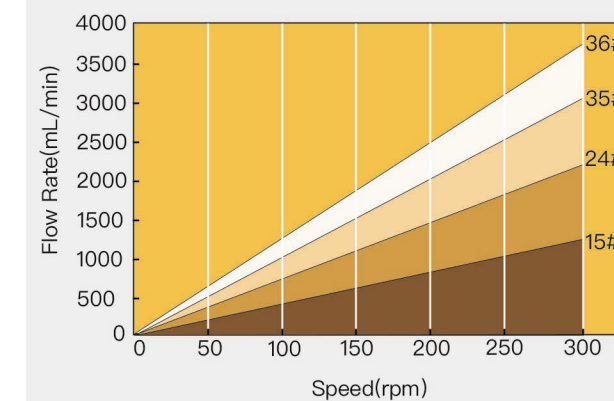
Flow Rate(0.1-350rpm)



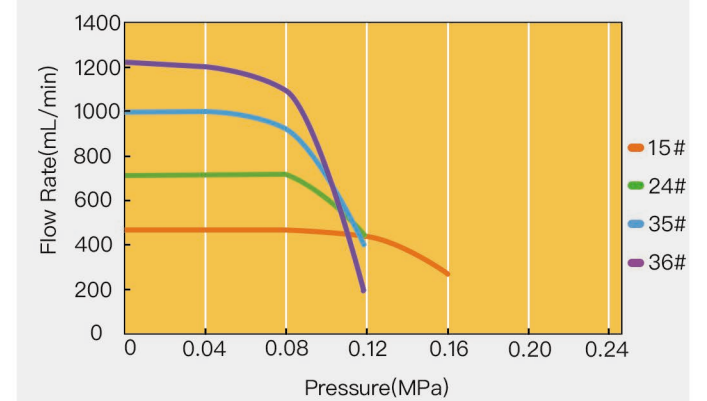
Pump Head Pressure/Flow Rate Curve(100rpm)



Flow Rate(0.1-350rpm)



Pump Head Pressure/Flow Rate Curve(100rpm)



### DY15 Filling Volume Reference Parameter

Drive	Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy(±%)	Output (pcs/min)	Motor Speed(rpm)
EXD-600-6L	DY15	13#	0.5	0.8	0.8	33	273.4
		13#	1	1.2	0.5	27	364.6
		14#	0.5	0.5	1	30	94.2
		14#	1	0.6	0.8	38	157.0
		14#	3	1	0.5	30	282.6
		19#	5	1	0.8	30	234.4
		16#	15	1.5	0.5	24	290.4
		25#	20	1	0.5	30	258.3
		17#	30	1	0.5	30	282.5
18#	100	2.5	0.5	17	251.7		

### DY25 Filling Volume Reference Parameter

Drive	Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy(±%)	Output (pcs/min)	Motor Speed(rpm)
ExD-600-6L	DY25	15#	10	0.8	0.8	33	177.3
		24#	30	1	0.8	30	235.9
		35#	70	1.5	0.5	24	272.2
		36#	100	2	0.5	20	241.9

Experimental conditions: standard atmospheric pressure, room temperature at 20°C, the liquid is pure water, no pressure, no suction and lift.  
 Note: Actually, it is affected by many factors such as transmission medium, inlet and outlet pressure, hose material and error, working environment, etc. This data is for reference only.

Experimental conditions: standard atmospheric pressure, room temperature at 20°C, the liquid is pure water, no pressure, no suction and lift.  
 Note: Actually, it is affected by many factors such as transmission medium, inlet and outlet pressure, hose material and error, working environment, etc. This data is for reference only.

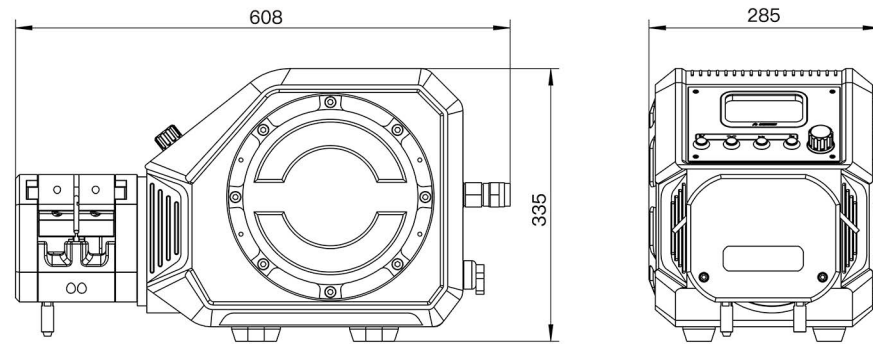


# ExD Series Explosion Proof Peristaltic Pump

## Pump Head



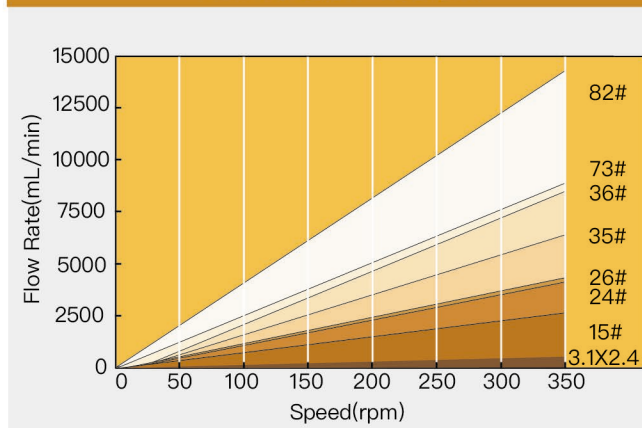
## Dimension Drawing(Unit:mm)



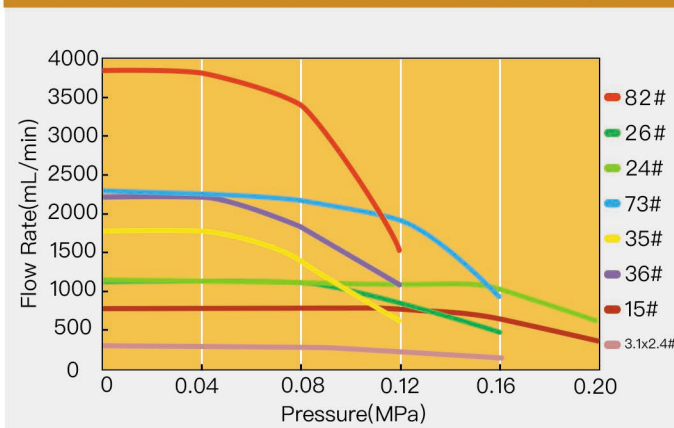
## Flow Rate

Drive	Pump Head	Housing Material	Tubing		Speed (rpm)	Flow Rate (mL/min)	Weight (kg)
			Size	IDxWall Thickness(mm)			
ExD-600-12L	DY25-II	Aluminum alloy	3.1X2.4	3.1x2.4	0.1-350	0.35-1211	9.45
			15#	4.8x2.4		0.75-2632	
			24#	6.4x2.4		1.19-4154.5	
			35#	7.9x2.4		1.76-6174	
	DY35		36#	9.6x2.4		2.37-8278	
			26#	6.4x3.3		1.28-4473	
			73#	9.6x3.3		2.40-8686	
			82#	12.7x3.3		3.93-13755	

Flow Rate(0.1-600rpm)



Pump Head Pressure/Flow Rate Curve(100rpm)



## YZ35 Filling Volume Reference Parameter

Drive	Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
ExD-600-12L	DY25-II	3.1X2.4	20	2	0.5	20	173.4
		15#	80	3	0.5	15	212.8
		24#	150	4	0.5	12	189.6
		35#	200	3.2	0.8	14	212.6
		36#	200	4	1	12	217.5
	DY35	26#	150	3	0.8	15	234.7
		73#	300	3	1	15	250.4
		82#	500	3	1	15	254.5

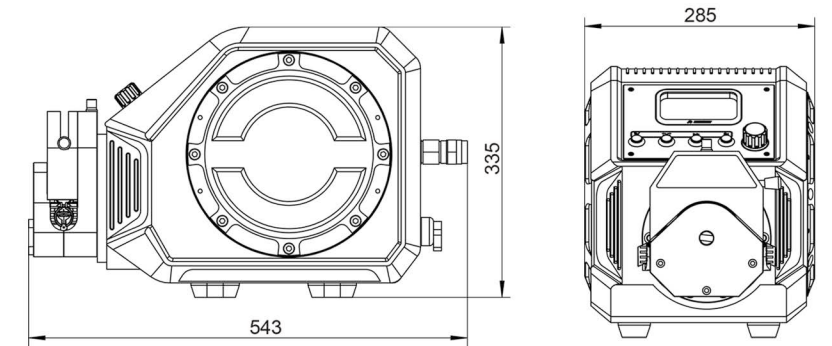
Experimental conditions: standard atmospheric pressure, room temperature at 20°C, the liquid is pure water, no pressure, no suction and lift. Note: Actually, it is affected by many factors such as transmission medium, inlet and outlet pressure, hose material and error, working environment, etc. This data is for reference only.

# ExD Series Explosion Proof Peristaltic Pump

## Pump Head



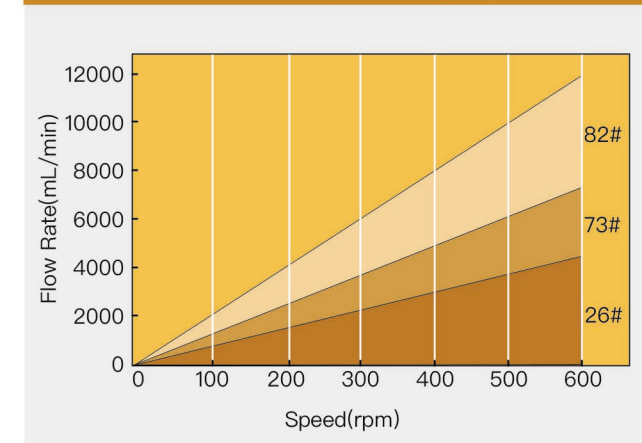
## Dimension Drawing(Unit:mm)



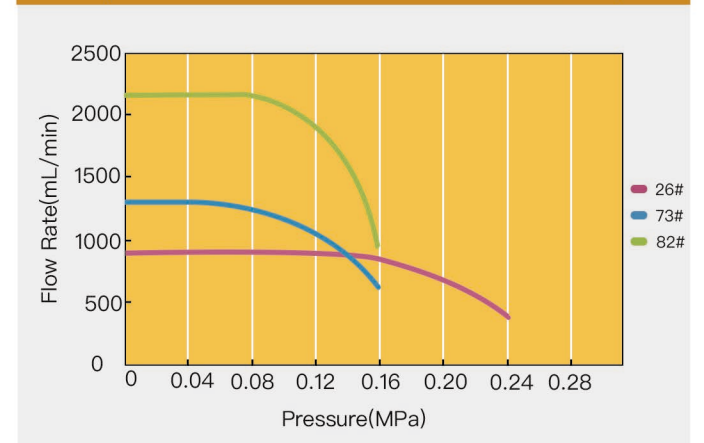
## YZ35 Flow Rate

Drive	Pump Head	Housing Material	Tube Clamp Material	Tubing		mL/r	Speed (rpm)	Flow Rate (mL/min)	Weight (kg)
				Size	IDxWall Thickness				
ExD-600-12L	YZ35	Aluminum alloy	Polyamide	26#	6.4x3.3(mm)	7	0.1-600	0.7-4200	3.55
				73#	9.6x3.3(mm)	12.3		1.23-7400	
				82#	12.7x3.3(mm)	20		2-12000	

Flow Rate(0.1-600rpm)



Pump Head Pressure/Flow Rate Curve(100rpm)



## YZ35 Filling Volume Reference Parameter

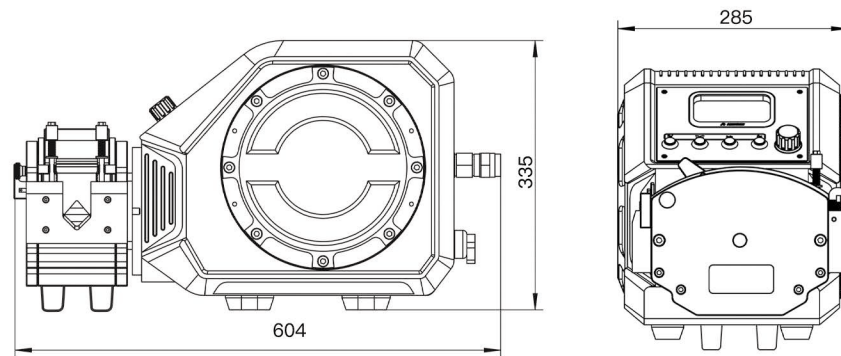
Drive	Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy(±%)	Output (pcs/min)	Motor Speed(rpm)
ExD-600-12L	YZ35	26#	50	1	0.5	30	428.6
		26#	100	2	0.5	20	428.6
		73#	100	1.2	0.5	27	406.5
		73#	150	2	0.5	20	365.9
		82#	200	1.5	0.5	24	400.0
	2*YZ35	73#	100	1.2	0.5	27	203.3
		73#	200	1.5	0.5	24	325.2
		82#	500	2	0.5	20	375.0

Experimental conditions: standard atmospheric pressure, room temperature at 20°C, the liquid is pure water, no pressure, no suction and lift. Note: Actually, it is affected by many factors such as transmission medium, inlet and outlet pressure, hose material and error, working environment, etc. This data is for reference only.



Pump Head

Dimension Drawing(Unit:mm)

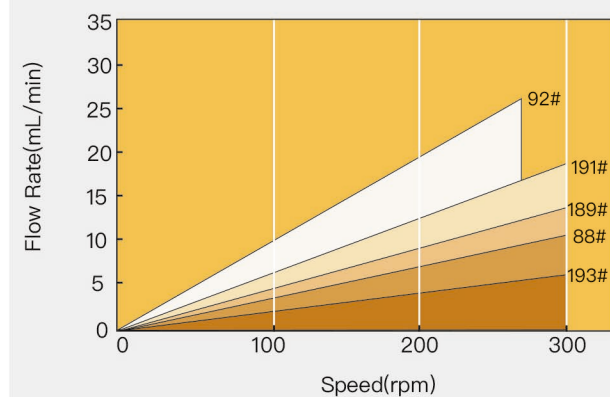


DZ45

DZ45 Flow Rate

Drive	Pump Head	Housing Material	Tube Clamp/ Connector Material	Tubing		L/r	Speed (rpm)	Flow Rate (L/min)	Weight (kg)
				Size	IDxWall Thickness				
ExD-300-30L	DZ45	Aluminum alloy	Polyamide	193#	9.6x4.8(mm)	0.019	0.1-300	0.0019-5.66	10
				88#	12.7x4.8(mm)	0.035		0.0035-10.5	
				189#	15.9x4.8(mm)	0.047		0.0047-13.98	
				191#	19.4x4.8(mm)	0.063		0.0063-18.78	
				92#	25.4x4.8(mm)	0.104	0.1-270	0.0104-28.15	

Flow Rate(0.1-300rpm)



QUALIFICATION CERTIFICATES



Certificato di esame UE del tipo

EU-type examination certificate

n. **ECM 24 ATEX-B TQ39**

Rilasciato ai sensi della direttiva 2014/34/UE – Allegato III - Modulo B  
Issued according to 2014/34/EU Directive – Annex III - Module B



Richiedente

Applicant

Ragione Sociale

Baoding Shenchen Precision Pump Co., Ltd.

Company Name

Indirizzo

No.103, Building 2, Zhidian Industrial Park, Fuxing East Road 999, Baoding, China.

Address

Apparecchiatura

Explosion Proof Peristaltic Pump

Equipment

Logo

Innofluid

Logo

Modelli

ExD-600-3L, ExD-600-6L, ExD-600-12L, ExD-300-18L, ExD-300-30L

Models

Questa apparecchiatura o sistema di protezione e le sue eventuali varianti accettate sono descritte nel presente Certificato e nell'allegato dello stesso. This equipment or protective system and any acceptable variation thereto are described in this Certificate and its Annex.

L'ECM, Organismo Notificato n° 1282 in conformità all'art. 17 della Direttiva 2014/34/UE del Parlamento europeo e del Consiglio del 26 febbraio 2014, certifica che questa apparecchiatura o sistema di protezione verificata secondo la procedura di cui all'allegato III, Modulo B, è conforme ai requisiti essenziali di sicurezza e salute per il progetto e la costruzione di apparecchiature e sistemi di protezione destinati ad essere utilizzati in atmosfere potenzialmente esplosive, definiti nell'allegato II della Direttiva. L'ECM, Notified Body No. 1282 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment or protective system was tested according to the procedure set out in Annex III, Module B, complies with the essential health and safety requirements for the project and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II of the Directive.

Le verifiche ed i risultati di prova sono registrati nel rapporto a carattere riservato n° PRD-2024-TQ39. The examination and test results are recorded in confidential report no. PRD-2024-TQ39.

I requisiti essenziali di sicurezza e salute sono assicurati dalla rispondenza alle Norme applicate: EN IEC 60079-0:2018+A11:2024, EN 60079-1:2014+A11:2024, EN IEC 60079-31:2018. The essential health and safety requirements are assured by compliance with applied Standard: EN IEC 60079-0:2018+A11:2024, EN 60079-1:2014+A11:2024, EN IEC 60079-31:2018.

Questo Certificato di esame UE del tipo è relativo soltanto al progetto, all'esame ed alle prove dell'apparecchiatura o sistema di protezione specificato in accordo con la Direttiva 2014/34/UE. Ulteriori requisiti di questa Direttiva si applicano al processo di produzione e fornitura dell'apparecchiatura o sistema di protezione: questi requisiti non sono oggetto del presente certificato. This EU-type examination certificate relates only to the design, examination and tests specified equipment in accordance with Directive 2014/34/EU. Further requirements of the Directive shall be applied to the manufacturing process and supply condition: these requirements are not covered by this certificate.

L'apparecchiatura o il sistema di protezione deve riportare i seguenti contrassegni: The equipment shall be marked with the following symbols:

- II2G Ex db IIC T4 Gb
- II2D Ex tb IIIC T130°C Db

Valsamoggia (BO)

Data - Date 13/06/2024

Timbro

Scadenza - Expiry date 12/06/2029



Firma autorizzata

Authorized signature

Amanda Payne  
(Deputy Manager)

Test Report / Technical Construction File no. ASDFC24-0506A

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Cer. 11 ATEX All. III Rev. 1 – 06/03/2017

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Ente Certificazione Macchine srl

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# QUALIFICATION CERTIFICATES



## 防爆合格证

CERTIFICATE OF CONFORMITY  
No. CJEx23.0236X

委托单位 Client	Baoding Shenchen Precision Pump Co., Ltd. (No.103, Building 2, Zhidian Industrial Park, Fuxing East Road 999, Baoding, China.)
制造单位 Manufacturer	Baoding Shenchen Precision Pump Co., Ltd. (No.103, Building 2, Zhidian Industrial Park, Fuxing East Road 999, Baoding, China.)
样品名称 Name of Product	Explosion Proof Peristaltic Pump
型号规格 Type of Product	ExD-600-12L 300W 220V
防爆标志 Marking	Ex db IIC T4 Gb Ex tb IIIC T130°C Db
产品标准 Product Standard	Q/BSC 03-2022
总装图号 Drawing No.	030135ZZ0000

经对上述产品图样及技术文件的审查和样品检验，确认符合下列标准：  
After examination of product drawings and technical documents and testing of sample, the product is in accordance with the following standards:

*Explosive atmospheres. Part 1: Equipment. General requirements*  
*Explosive atmospheres. Part 2: Equipment protection by flameproof enclosures "d"*  
*Explosive atmospheres. Part 31: Equipment dust ignition protection by enclosure "t"*

说明事项  
Explanation  
1、Represent: ExD-600-3L; ExD-600-6L; ExD-600-12L; ExD-300-18L;  
ExD-300-30L 300W 220V Ex db IIC T4 Gb Ex tb IIIC T130°C Db.  
2、"X" indicates that see the instruction manual for special conditions of use.

本证有效期至  
Valid Date      February 26<sup>th</sup>, 2028

批准  
Approved by 



National Quality Supervision & Inspection Centre of Hoisting and  
Metallurgical & Explosion-Proof Electric Machine  
Machine-Building Industry Quality Supervision & Testing  
Centre of Explosion-Proof Electrical Apparatus  
Jiamusi Explosion-proof Motor Research Institute Co., Ltd.  
February 27<sup>th</sup>, 2023



地址: 黑龙江省佳木斯市安庆街3号  
电话: 0454-8326353  
传真: 0454-8311260  
网址: www.jexm.net



注: 本证书仅对与认可文件和样品一致的产品有效, 登录网站或扫描二维码查询真伪。

# QUALIFICATION CERTIFICATES



## 中国国家强制性产品认证证书

CERTIFICATE FOR CHINA COMPULSORY PRODUCT CERTIFICATION  
No. 2023122302116632

NAME AND ADDRESS OF THE APPLICANT

Baoding Shenchen Precision Pump Co., Ltd.  
No. 103, Building 2, Zhidian Industrial Park, Fuxing East Road 999, Baoding, China

NAME AND ADDRESS OF THE MANUFACTURER

Baoding Shenchen Precision Pump Co., Ltd.  
No. 103, Building 2, Zhidian Industrial Park, Fuxing East Road 999, Baoding, China

NAME AND ADDRESS OF THE FACTORY

Baoding Shenchen Precision Pump Co., Ltd.  
No. 103, Building 2, Zhidian Industrial Park, Fuxing East Road 999, Baoding, China

CERTIFICATION STANDARDS

GB/T 3836.1-2021, GB/T 3836.2-2021, GB/T 3836.31-2021

NAME, MODEL AND SPECIFICATION

Explosion Proof Peristaltic Pump

ExD-600-3L, ExD-600-6L, ExD-600-12L, ExD-300-18L, ExD-300-30L. Ex marking: Ex db IIC T4 Gb, Ex tb IIIC T130°C Db.  
Electric parameters: Rated voltage 220V, Rated output power 300W. Special conditions of use:  
- Ambient temperature: 0°C~+40°C. -Use fasteners with yield strength ≥ 640MPa.  
- Repairs involving explosion-proof surfaces should contact the manufacturer.- Do not open when energized.  
- Potential electrostatic hazards, refer to the instruction manual for details.

THIS CERTIFICATE IS ISSUED AS VERIFICATION THAT THE PRODUCT(S) MENTIONED ABOVE HAS MET THE REQUIREMENTS OF IMPLEMENTATION RULES FOR CHINA COMPULSORY CERTIFICATION (REF NO. CNCA-C23-01: 2019)

INITIAL DATE: 2023-05-18      DATE OF EXPIRY: :2028-05-17

VALIDITY OF THIS CERTIFICATE IS SUBJECT TO POSITIVE RESULT OF THE REGULAR FOLLOW UP INSPECTION BY THE ISSUING CERTIFICATION BODY UNTIL THE EXPIRY DATE.

THE STATUS AND AUTHENTICITY OF THIS CERTIFICATE MAY BE VERIFIED BY VISITING THE OFFICIAL CNCA WEBSITE: WWW.CNCA.GOV.CN OR BY CONTACTING SERVICE TEL OF CQM: 010-88411888



China Quality Mark







**方圆标志认证集团**  
China Quality Mark Certification Group  
<http://www.cqm.com.cn>




A 0002781



# QUALIFICATION CERTIFICATES

No: BA0500061-2023

中国认可  
国际互认  
检测  
TESTING  
CNAS L1177

211520110775


## TEST REPORT

Sample: Explosion Proof Peristaltic Pump

Manufacturer: Baoding Shenchen Precision Pump Co., Ltd.

Client: Baoding Shenchen Precision Pump Co., Ltd.

Test kind: Entrust



Shandong Institute for Product Quality Inspection

# QUALIFICATION CERTIFICATES


No: BA0500061-2023

## Shandong Institute for Product Quality Inspection

### Test Report

Page 1 of 22

Sample	Explosion Proof Peristaltic Pump	Test Kind	Entrust
Client	Baoding Shenchen Precision Pump Co., Ltd.	Model, Type	ExD series
Manufacturer	Baoding Shenchen Precision Pump Co., Ltd.	Grade	/
Address of Client	No.103, Building 2, ZhiDian Industrial Park, FuXing East Road 999, Baoding, China. 071000	Registered Trademark	/
Sampling Location	/	Client Representative	Li Mingjie
Sample Batch	/	Receipt Date	2023-02-15
Sample Quantity	1 set	Producing Date	/
Sample Description	Apparently Sound, No damage.	Batch No.	/
Environmental for Test	Temperature: 18.3 C ~ 18.7 C, Humidity: 32%RH ~ 38%RH, Atmospheric pressure: 101.40kPa ~ 101.90kPa	Test Date	2023-02-15 ~ 2023-02-16
Test Standard	IEC61000-6-2:2016, IEC61000-6-4:2018, IEC61000-3-2:2020, IEC61000-3-3:2017		
Decision Standard	IEC61000-6-2:2016, IEC61000-6-4:2018, IEC61000-3-2:2020, IEC61000-3-3:2017		
Test Item	Electrostatic discharge Immunity test, Radiated, radio-frequency, electromagnetic field immunity test, Electrical fast transient/burst immunity test, Surge immunity test, Immunity test to conducted disturbances, induced by radio-frequency fields, Power-frequency magnetic field immunity test, Voltage dips and short interruptions immunity test, Conducted disturbance test, Radiated disturbance test, Harmonic current emission test, Voltage fluctuations and flicker test		
Test Conclusion	The sample is determined as qualified according to IEC61000-6-2:2016, IEC61000-6-4:2018, IEC61000-3-2:2010 and IEC61000-3-3:2017.		
Note	1. This report contains front cover and second cover (signal"/"indicates this item has no content) 2. Testing address: No.31000, Jingshidong Road, Jinan, Shandong Prov.		



Approved by: 潘勇

Date: 2023-03-10

Reviewer: 刘桂秋

Date: 2023-03-10

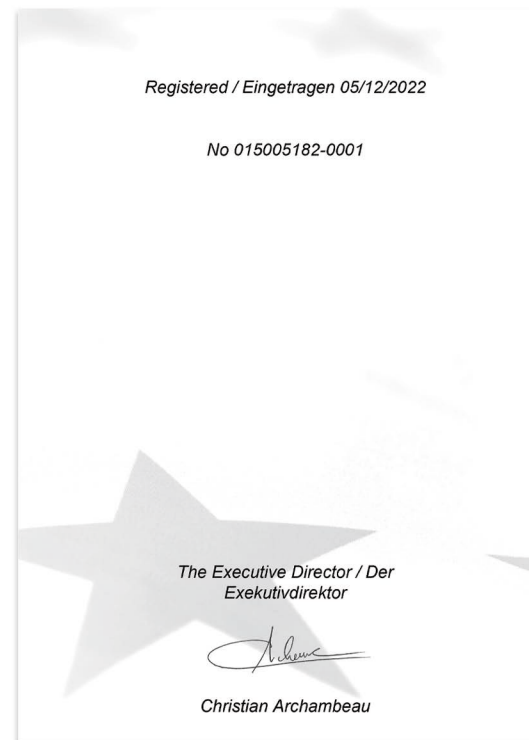
Tested by: 胡德隆

Date: 2023-03-10



# QUALIFICATION CERTIFICATES

# PATENTS



The utility model relates to an explosion proof peristaltic pump.



The utility model relates to an explosion proof knob structure.



Software Copyright



Appearance Patent



The utility model relates to an explosion proof locking structure.



The utility model relates to a dust-proof, water-proof and explosion-proof, three-proof button structure.



# 1. Explosion-proof concept analysis

## • Classification of areas – Explosive gas atmospheres

Countries around the world have different zones for dangerous places, but there are roughly two factions: China and most European countries use the IEC classification method, Other countries, mainly represented by the United States and Canada, use the North American method.

The provisions of the Chinese standard GB3836.14-2014 Explosive atmospheres-Part 14: Classification of areas-Explosive gas atmosphere as follows:

Hazardous areas are classified into the follow zones according to the frequency and duration of the explosive gas atmospheres:

Zone 0: A place where an explosive gas atmospheres is present continuously or for a long time.

Zone 1: A place where an explosive gas atmospheres may occur during normal operation.

Zone 2: A place where an explosive gas atmospheres is not likely to occur in normal operation, but if it does occur, it will occur occasionally and only for a short time.

Electrical apparatus for explosive gas atmospheres				Maximum surface temperature grouping for Class II electrical equipment	
Ex	db	II C	T4	Temperature group	Maximum surface temperature of equipment (°C)
				T1	450
				T2	300
				T3	200
				T4	135
				T5	100
				T6	85

Classes and temperature groups of explosive gases or vapors									
温度组别	T1	T2	T3	T4	T5	T6			
category	I	methane		-	-	-			
	IIA	Acetic acid acetone acetonitrile Allyl fluoride ammonia aniline Styrene Benzene Methylstyrene Tritoluene penta-2-one (Methylpropyl ketone)	Cresol Bromoethane Isobutane Butyryl fluoride Chloromethane propane Chloroethane petroleum Nitrogen (impurity) benzene	Cyclopentane Methylcyclohexane Propionic acid ethane methanol Methyl formate ethyl acetate ethylene oxide Diisopropyl ether	Propanol cyclohexanone Ethylene Furan Butane methylamine chloroethanol Ethyl acrylate	Pentane Methylcyclohexane Petroleum (including gasoline) Naphtha Diesel kerosene hexane ethanethiol Pentyl alcohol chlorobutane tetrahydrothiophene	Acetaldehyde	-	Ethyl nitrite
	II B	Propylene (methyl acetylene) Cyclopropane Acrylonitrile	Hydrogen cyanide Coke oven gas	Butadiene-1,3 ethylene oxide Methyl acrylate furan	Diformaldehyde methylfuryl alcohol Butenal Ethylthiol	Ethyl methyl ether diethyl ether Dibutyl ether tetrafluoroethylene	-	-	-
	II C	Hydrogen		Acetylene	-	-	Carbon disulfide	-	

Explosive gas group				
Electrical equipment category	Representative gas	Gas classification	Maximum Experimental Safe Gap(MESG)	Minimum ignition current (MIC)
I	Methane	-	-	-
IIA	Propane	A	MESG is greater than 0.9mm	MIC ratio is greater than 0.8
II B	Vinyl	B	MESG is 0.5-0.9mm	MIC ratio is 0.45-0.8
II C	Hydrogen/Acetylene	C	MESG is less than 0.5mm	MIC ratio is less than 0.45

## • Electrical equipment for combustible dust environments

Protected by an enclosure to prevent dust from entering and limit the surface temperature, an explosion proof form of electrical equipment used in explosive dust atmospheres.

The type of protection “t” is divided into three protection classes according to the degree of danger that Ex equipment can become a source of ignition in explosive dust atmospheres.

Equipment protected by a dust ignition-tight enclosure “t” is classified as:

---“ta” (Equipment Protection Level “Da” ); or

---“tb” (Equipment Protection Level “Db” ); or

---“tc” (Equipment Protection Level “Dc” ).

Protection rate,Relationship between device category and protection rate (IP)			
Protection rate	II C	II B	II A
“ta”	IP6X	IP6X	IP6X
“tb”	IP6X	IP6X	IP5X
“tc”	IP6X	IP5X	IP5X

# 2. Description of IP protection level (According to GB4208/IEC60529)

For example, the protection level is IP54, IP is the marked letter, the number 5 is the first marked number, and 4 is the second marked number. The first marked number indicates the contact protection and foreign object protection level, and the second marked number indicates the waterproof protection level

The first characteristic number fixed conductor foreign matter enters.		Second special identification number to prevent harmful effects from ingress of water	
0	No protection	0	No protection
1	Fixed foreign object with a diameter greater than 50mm	1	Vertical drip
2	Fixed foreign object with a diameter greater than 12mm	2	15° drip
3	Fixed foreign object with a diameter greater than 2.5mm	3	Deluge
4	Fixed foreign object with a diameter greater than 1.0mm	4	Splash
5	Dustproof	5	Spray water
6	Dusty	6	Blast water
		7	Short time immersion
		8	Continuous immersion



# Peristaltic Pump Tubing

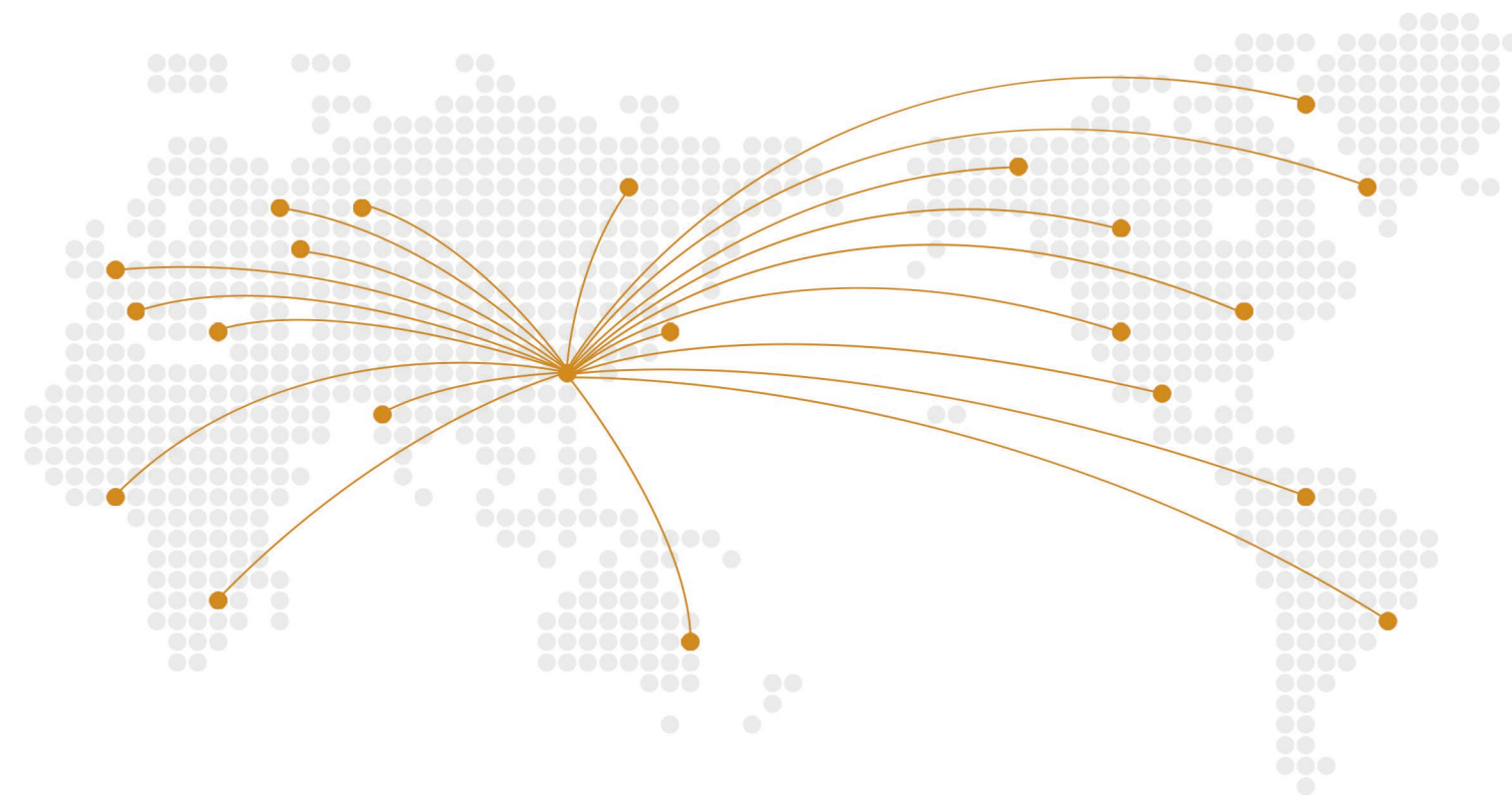
## Silicone Tubing

Platinum-cured silicone tubing: Soft, slightly transparent, smooth inner wall; low protein adhesion, low protein penetration, temperature range: -51~238°C.

Micro Flow Rate Tubing										
Tubing Size	0.13×0.86	0.5×0.86	0.86×0.86	1.52×0.86	2.06×0.86	2.79×0.86	1×1	2×1	3×1	2.4×0.8
Tubing cross sections(1:1)	●	●	●	○	○	○	●	○	○	○
Wall thickness (mm)	0.86						1.0			0.8
Inside diameter (mm)	0.13	0.5	0.86	1.52	2.06	2.79	1.0	2.0	3.0	2.4
Maximum pressure (Mpa)	Continuous	0.1								
	Intermittent	0.1								

Basic Flow Rate Tubing												
Tubing Size	13"	14"	19"	16"	25"	17"	18"	15"	24"	35"	36"	
Tubing cross sections (1:1)	●	●	●	○	○	○	○	○	○	○	○	
Wall thickness	mm	1.6						2.4				
	inch	1/16						3/32				
Inside diameter	mm	0.8	1.6	2.4	3.2	4.8	6.4	7.9	4.8	6.4	7.9	9.6
	inch	1/32	1/16	3/32	1/8	3/16	1/4	5/16	3/16	1/4	5/16	3/8
Maximum pressure (Mpa)	Continuous	0.17			0.14	0.1	0.07	0.17			0.14	
	Intermittent	0.27			0.24	0.14	0.1	0.27			0.24	

Industrial Tubing								
Tubing Size	26"	73"	82"	86"	90"	88"	92"	
Tubing cross sections (1:1)	⤴	⤴	⤴	⤴	⤴	⤴	⤴	
Wall thickness	mm	3.3			6.4		4.8	
	inch	1/8			1/4		3/16	
Inside diameter	mm	6.4	9.6	12.7	9.5	19	12.7	25.4
	inch	1/4	3/8	1/2	3/8	3/4	1/2	1
Maximum pressure (Mpa)	Continuous	0.2			0.25			
	Intermittent	0.27			0.3			



**INNOFLUID Peristaltic Pump** | Exported to **106** countries

