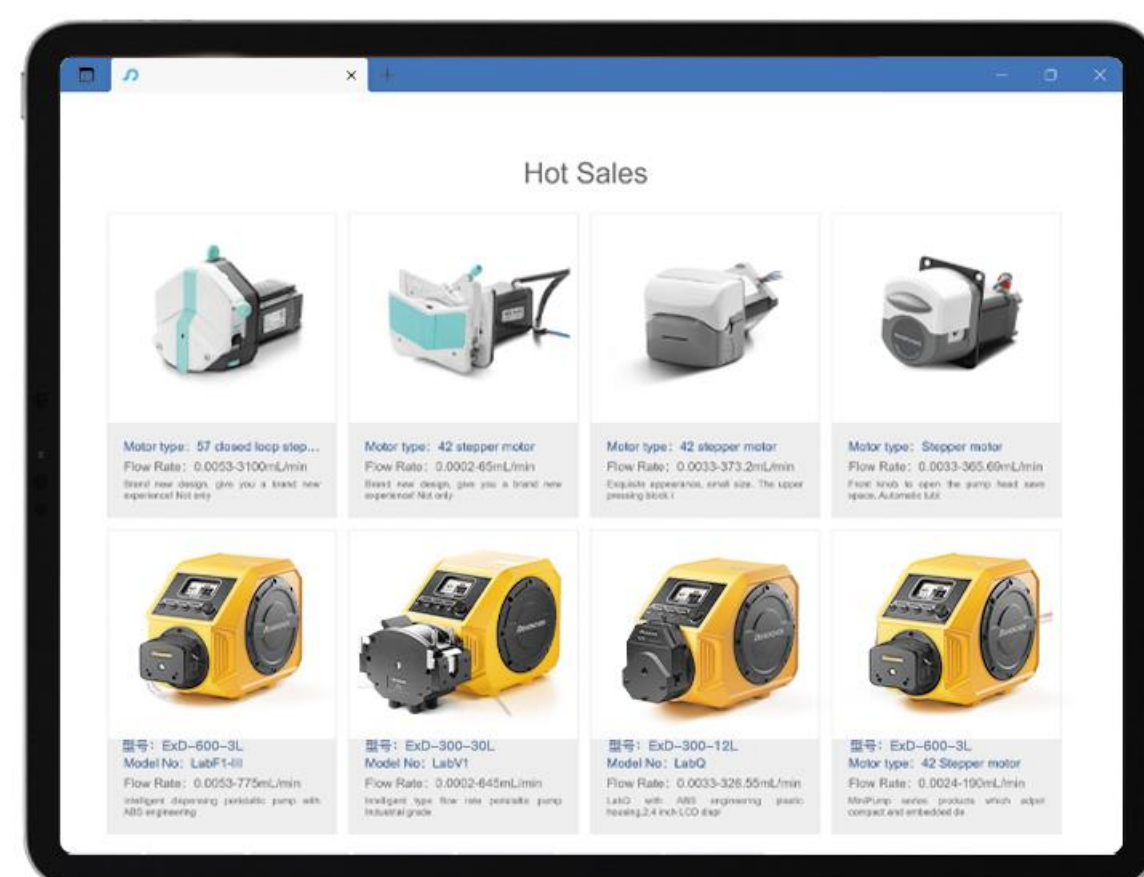




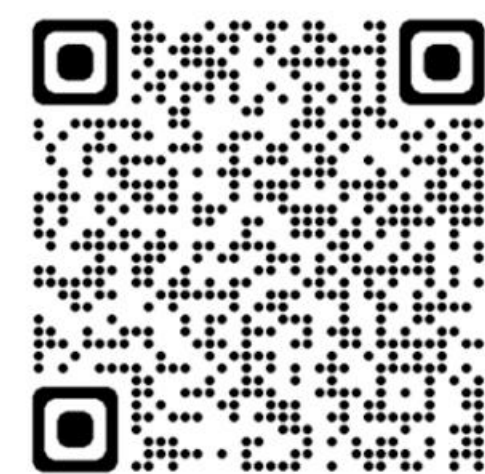
Management System
2014/34/EU
IECEx System
Valid until:
2029-04-09
www.tuv.com
ID 900044145





Official Website:
www.innofluid.com

2026



OFFICIAL WEBSITE

innofluid Co.,Ltd.
Building 10,No.860,Xinyang Road,Lingang New Area
Pilot Free Trade Zone,Shanghai,China.

Website:www.innofluid.com
Email:info@innofluid.com

INNOFLUID

ExD series



ExD Series

Redefine Explosion Proof Peristaltic Pump



Series
ExD

 **EU ATEX + IECEx Certified by TÜV Rheinland**

ExD Series Integrated Explosion-Proof Peristaltic Pump
Designed for Explosive Gas and Combustible Dust Atmospheres

 II 2 G Ex db IIC T4 Gb
II 2 D Ex tb IIIC T130°C Db


EMC IP66

ATEX Certificate No.: TÜV 25 ATEX 9294 X
IECEx Certificate No.: IECEx TUR 25.0034X



Assembled products with parts

VS



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.

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.

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.

AC servo motor control system

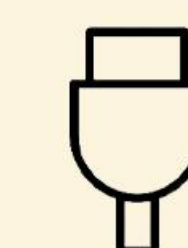
- AC servo motor, high precision, high torque and smooth operation.
- Under full load:
ExD-300-30L (with DZ45 pump head): Motor temperature rise 25 °C
ExD-600-12L (with YZ35 pump head): Motor temperature rise 15 °C



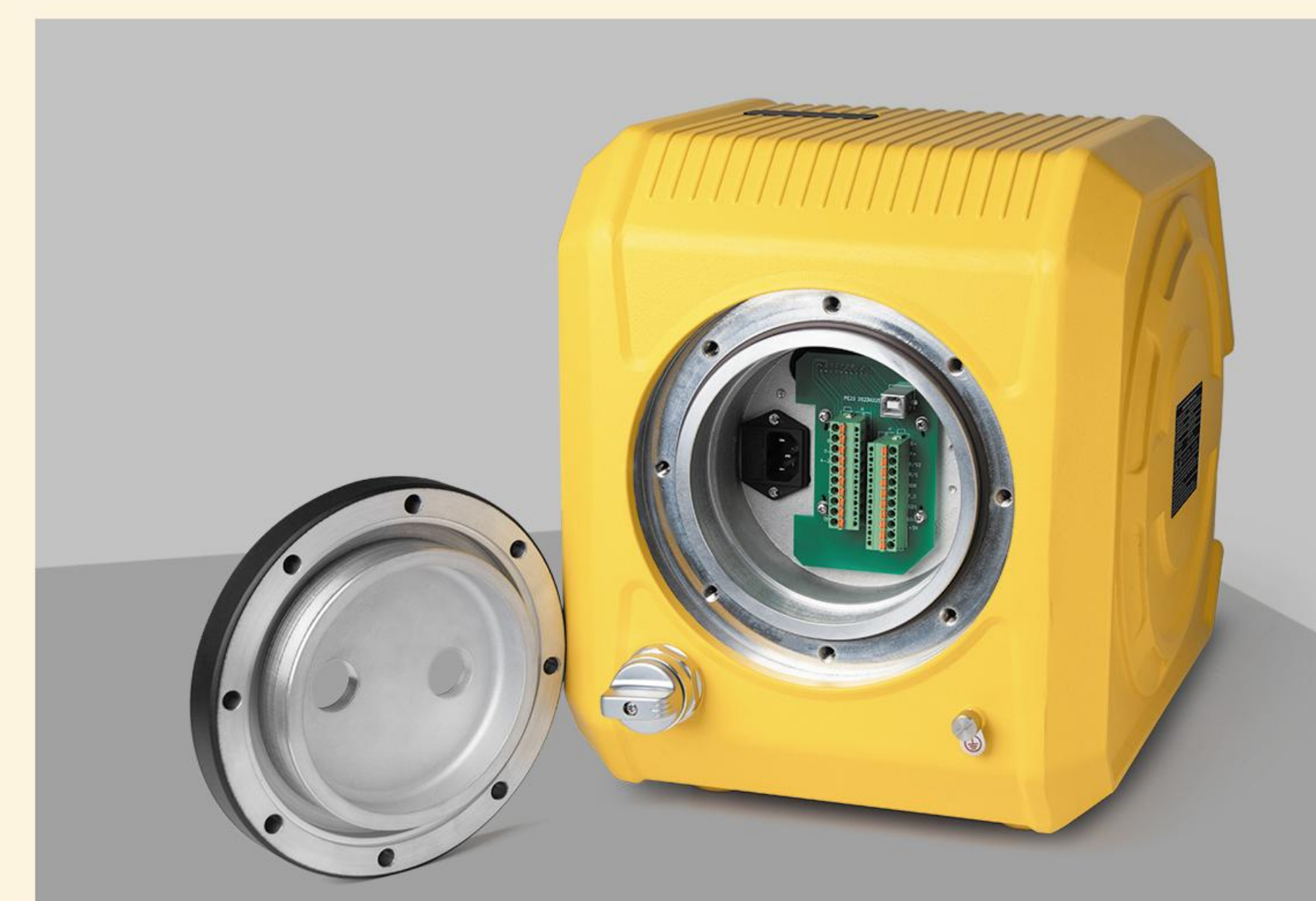
IP66 Protection Level



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.

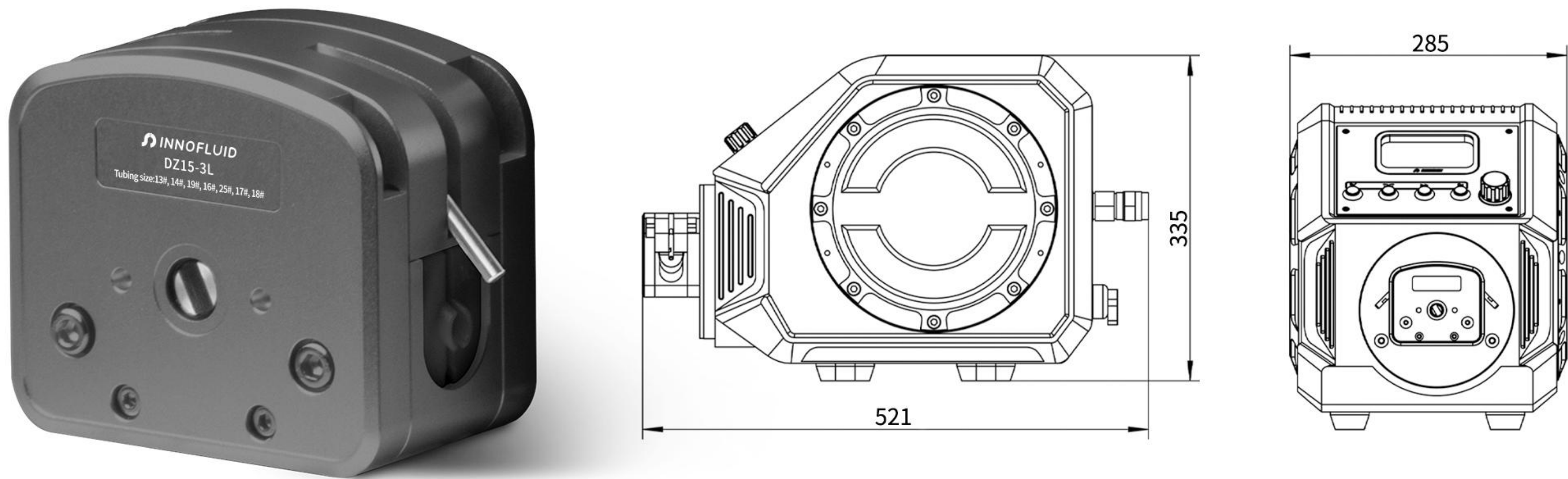
IP66

Technical Specifications

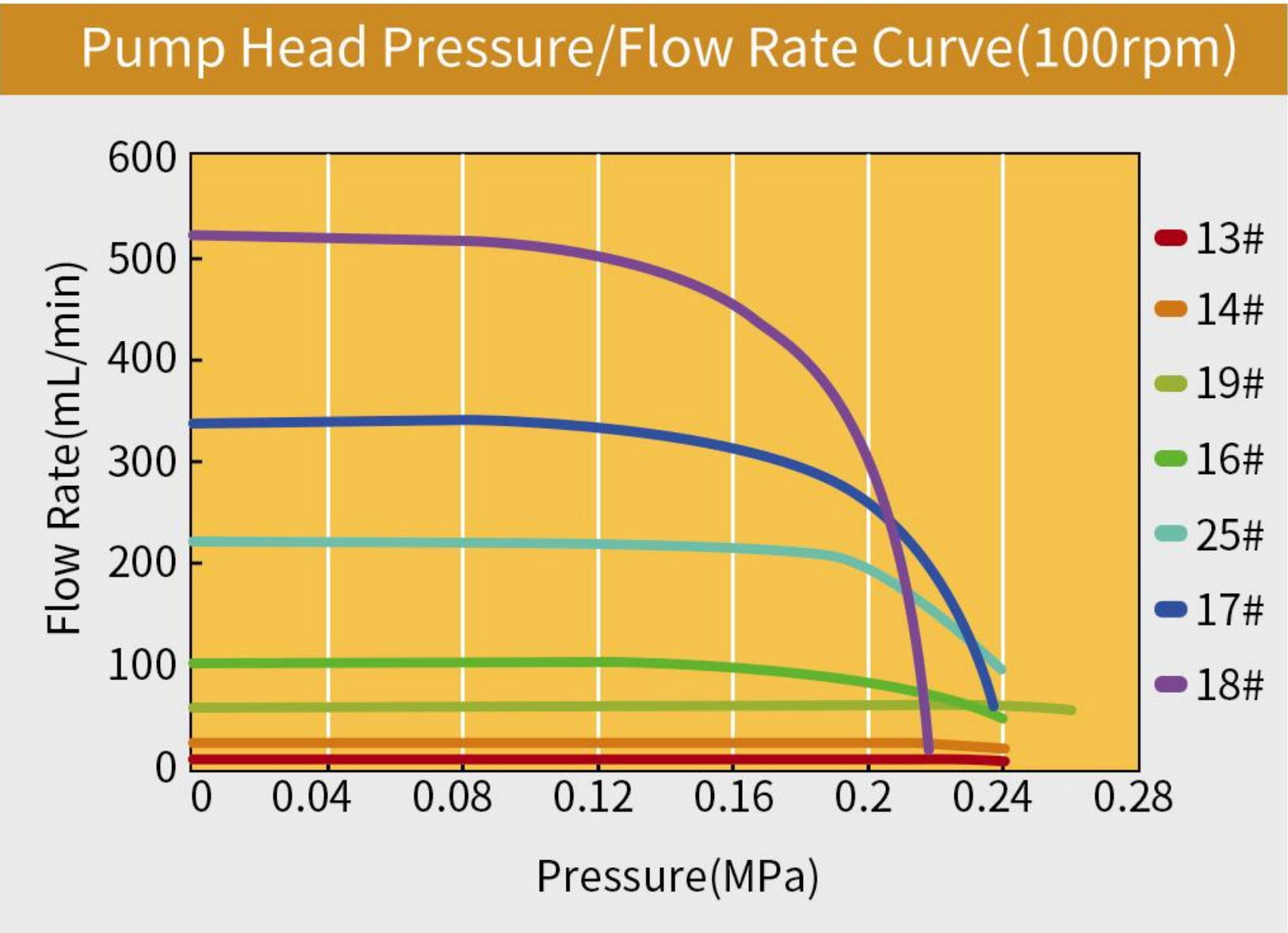
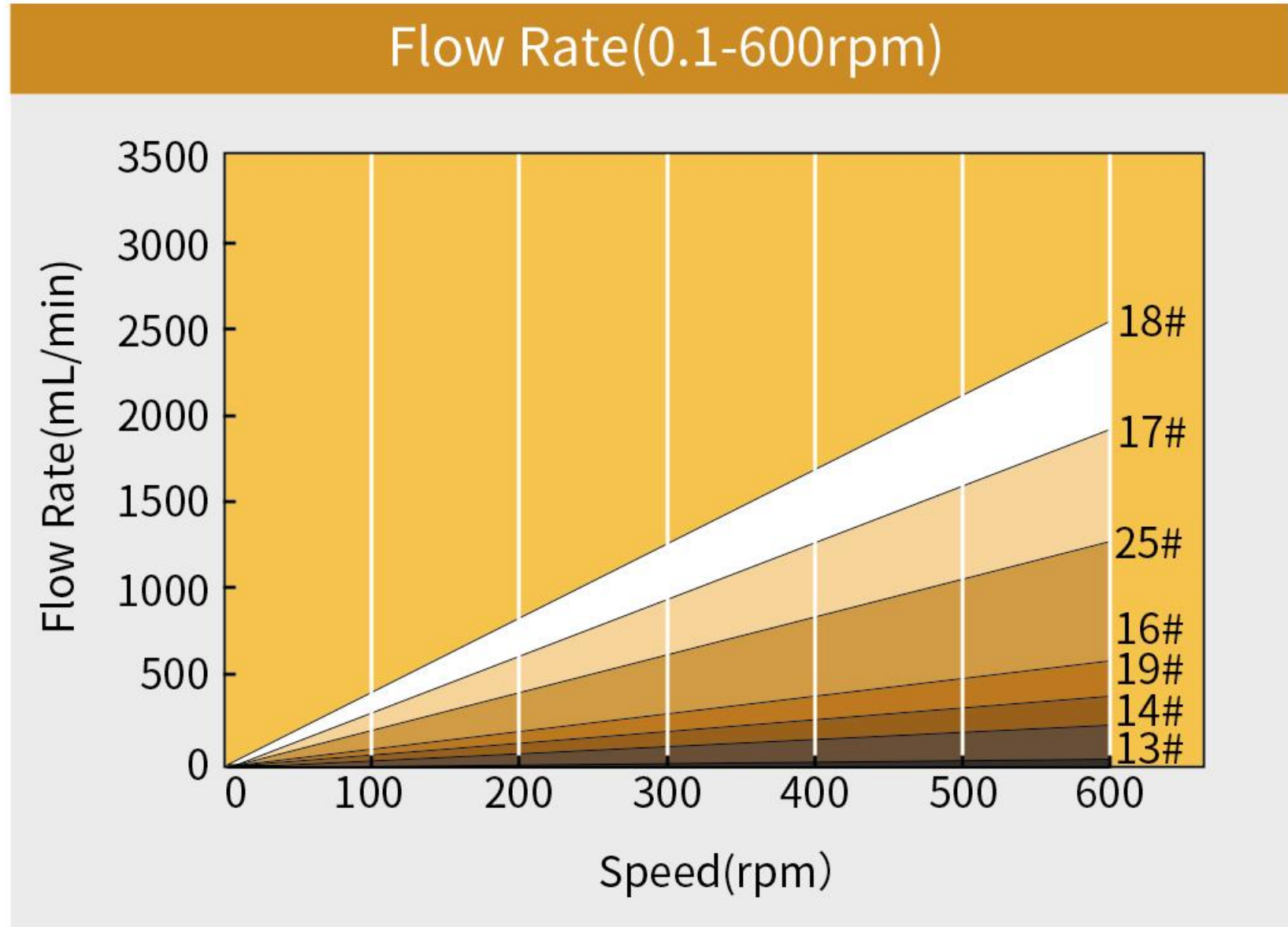
- Standard: EN IEC 60079-0:2018+A11:2024, EN 60079-1:2014+A11:2024, EN IEC 60079-31:2018.
- Housing material: Aluminum Alloy
- Speed range:
 - ExD-600 series: 0.1-600rpm
 - ExD-300 series: 0.1-300rpm
- Speed resolution: 0.1rpm
- Display: 4.3 inch -Industrial grade - True color LCD screen
- Control: Mechanical 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
- Three levels of permissions: Three user access levels (Administrator, Technician, and Operator) with distinct permission settings
- Drive dimension (L×W×H): 458×285×335mm
- Power supply: AC220V±10%, 50/60Hz
- Rated power: 300W
- Relative humidity: <90%
- IP rate: IP66
- Condition temperature: 0-40°C
- Drive weight: 30.1kg

ExD-600-3L/DZ15-3L

Dimension Drawing (Unit:mm)



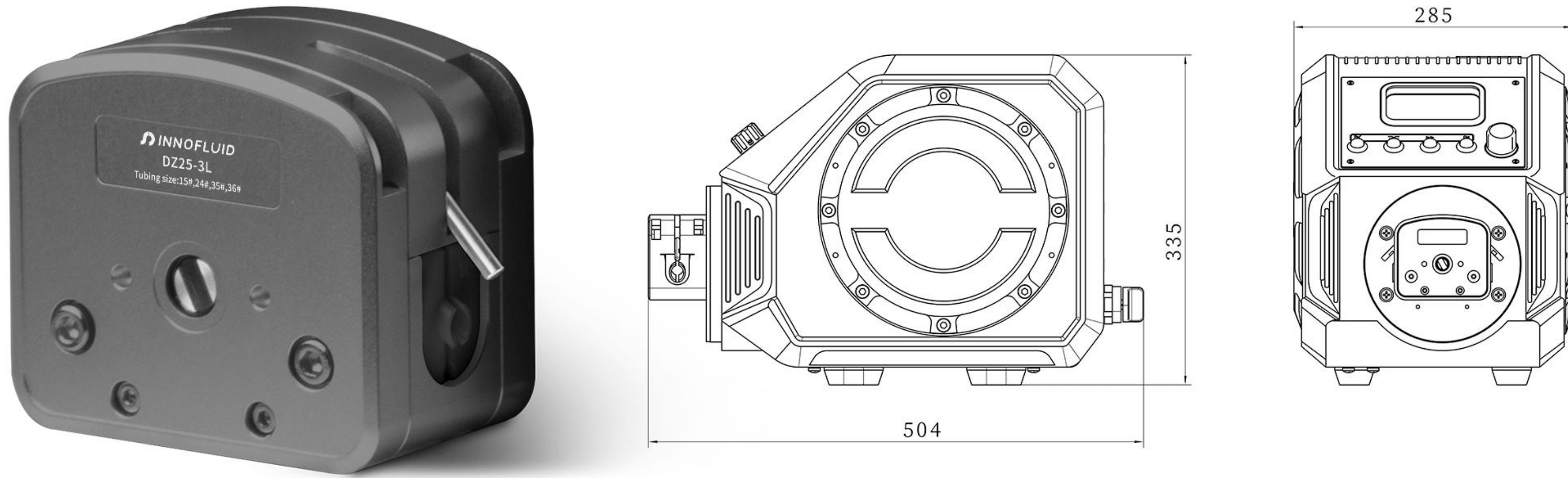
DZ15-3L Pump Head Technical Specifications								
Pump Head	Housing Material	Tube Clamp/ Connector Material	Speed (rpm)	mL/r	Tubing		Flow Rate (mL/min)	Weight (kg)
					Sizes	IDxWall Thickness(mm)		
DZ15-3L	Aluminum alloy	Polyamide	0.1-600	0.047	13#	0.8x1.6	0.0047-28.01	1.16
				0.264	14#	1.6x1.6	0.0264-158.07	
				0.542	19#	2.4x1.6	0.0542-324.94	
				1.054	16#	3.1x1.6	0.1054-632.98	
				2.094	25#	4.8x1.6	0.2094-1256.10	
				3.235	17#	6.4x1.6	0.3235-1941.20	
				4.188	18#	7.9x1.6	0.4188-2512.96	



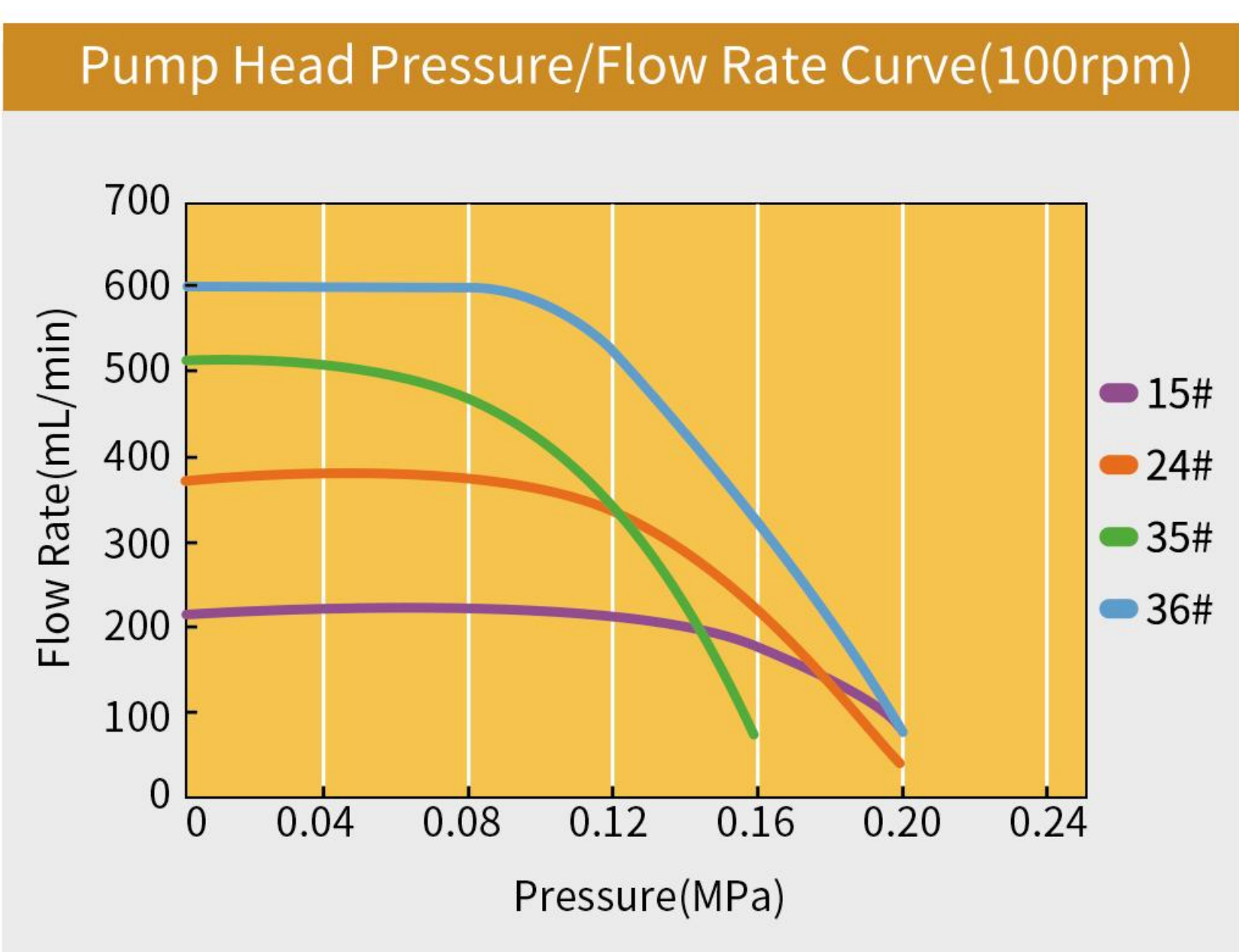
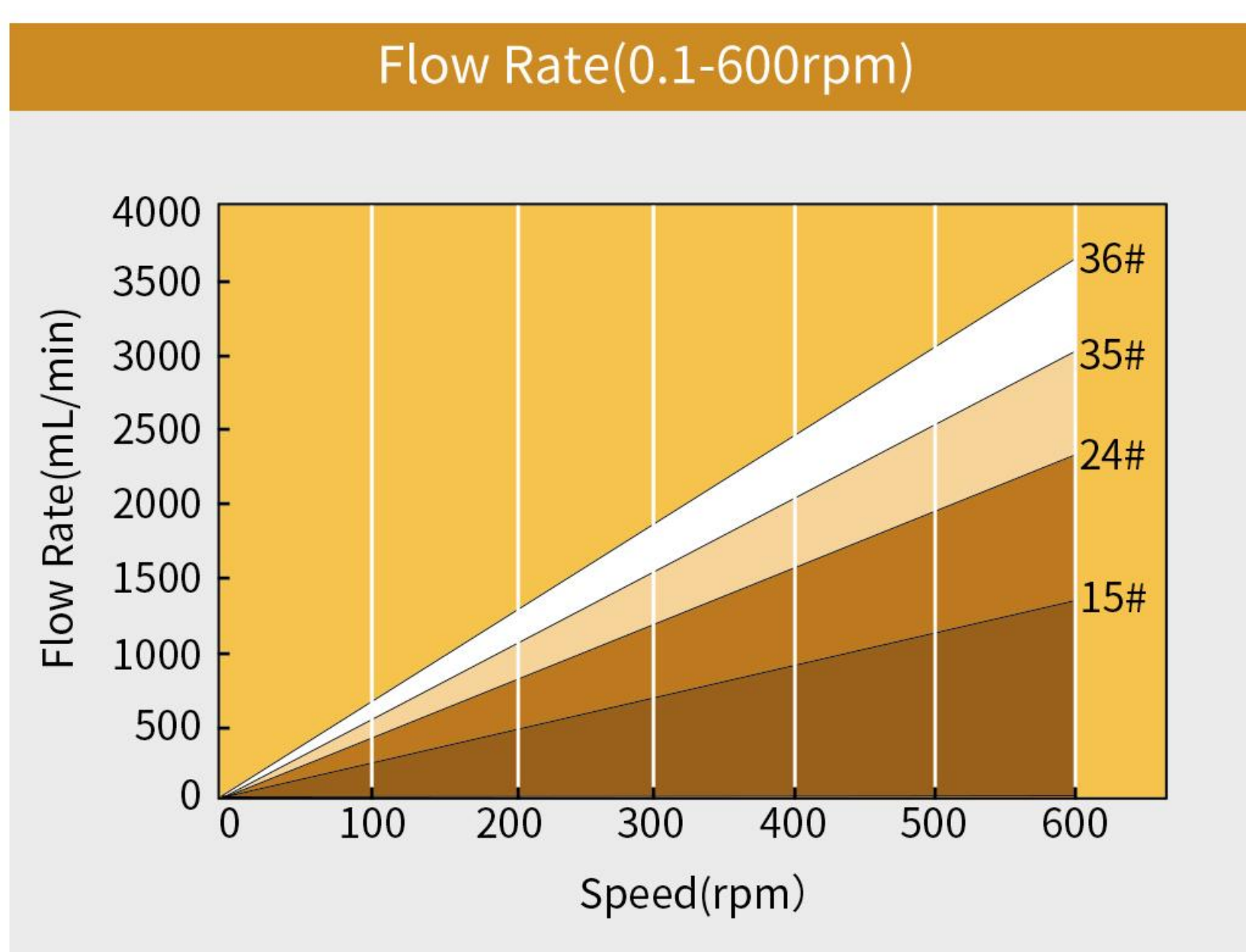
DZ15-3L Pump Head Filling Volume Reference Parameter						
Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy(±%)	Output(pcs/min)	Motor Speed(rpm)
DZ15-3L	13#	0.5	1.5	0.8	24	266
	13#	1	3	0.5	15	266
	14#	2.5	1.5	1	24	379
	19#	5	1.5	1	24	369
	16#	7	1	0.8	30	398
	25#	10	0.8	0.8	33	358
	25#	20	1.5	0.5	24	382
	17#	50	2	1	20	464
	18#	70	3	0.8	15	334

ExD-600-A/DZ25-3L

Dimension Drawing (Unit:mm)



DZ25-3L Pump Head Technical Specifications								
Pump Head	Housing Material	Tube Clamp Material	Speed (rpm)	mL/r	Tubing		Flow Rate (mL/min)	Weight (kg)
					Sizes	IDxWall Thickness(mm)		
DZ25-3L	PPS	Polyamide	0.1-600	2.11	15#	4.8X2.4	0.211-1264	0.5
				3.85	24#	6.4X2.4	0.385-2310	
	Aluminum alloy			5.08	35#	7.9X2.4	0.508-3050	1.16
				6	36#	9.6X2.4	0.6-3600	

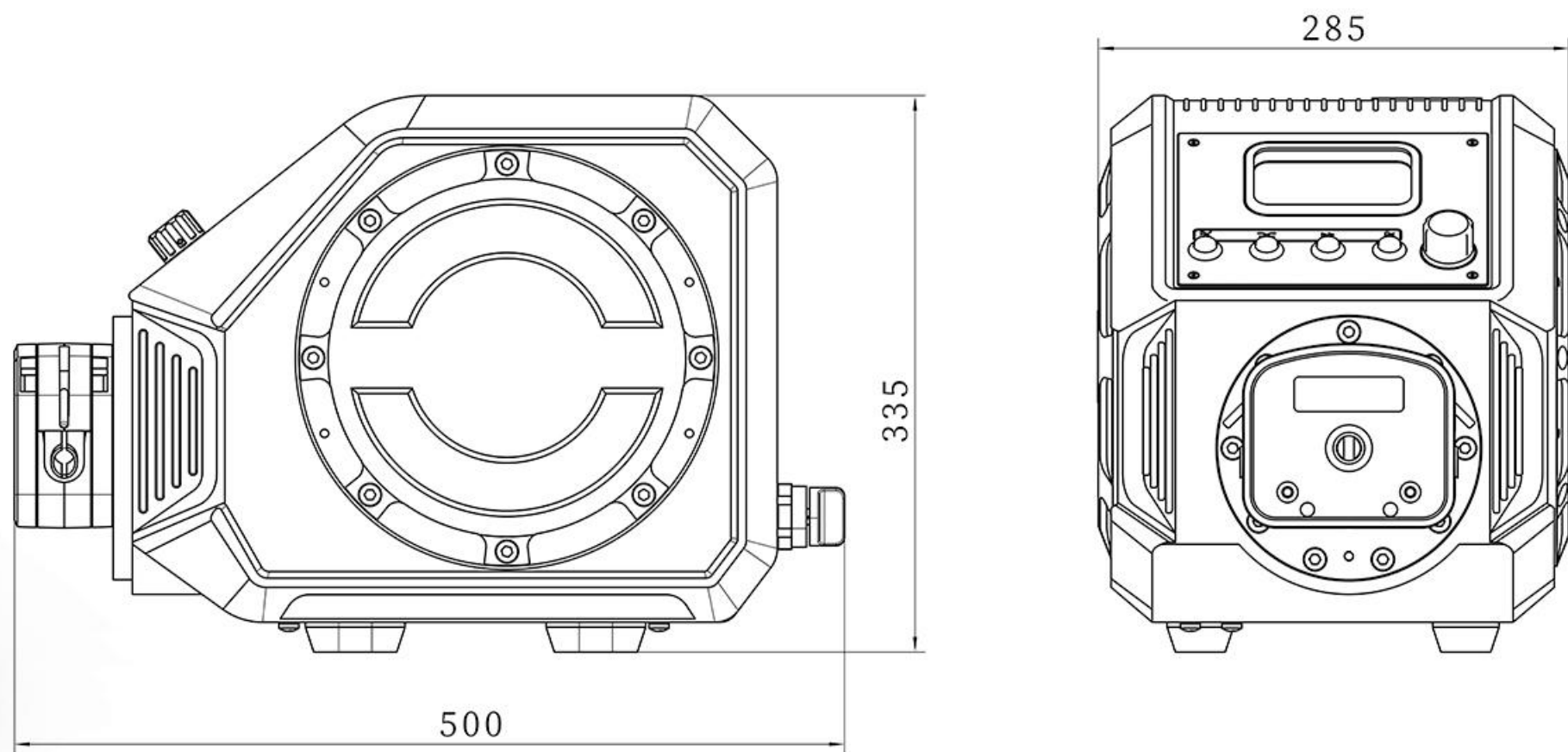


DZ25-3LPump Head Filling Volume Reference Parameter						
Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
DZ25-3L	15#	20	1.2	0.5	27	473.9
	24#	40	1.5	0.5	24	415.6
	35#	50	1.5	0.5	24	393.7
	36#	70	2	0.5	20	350.0

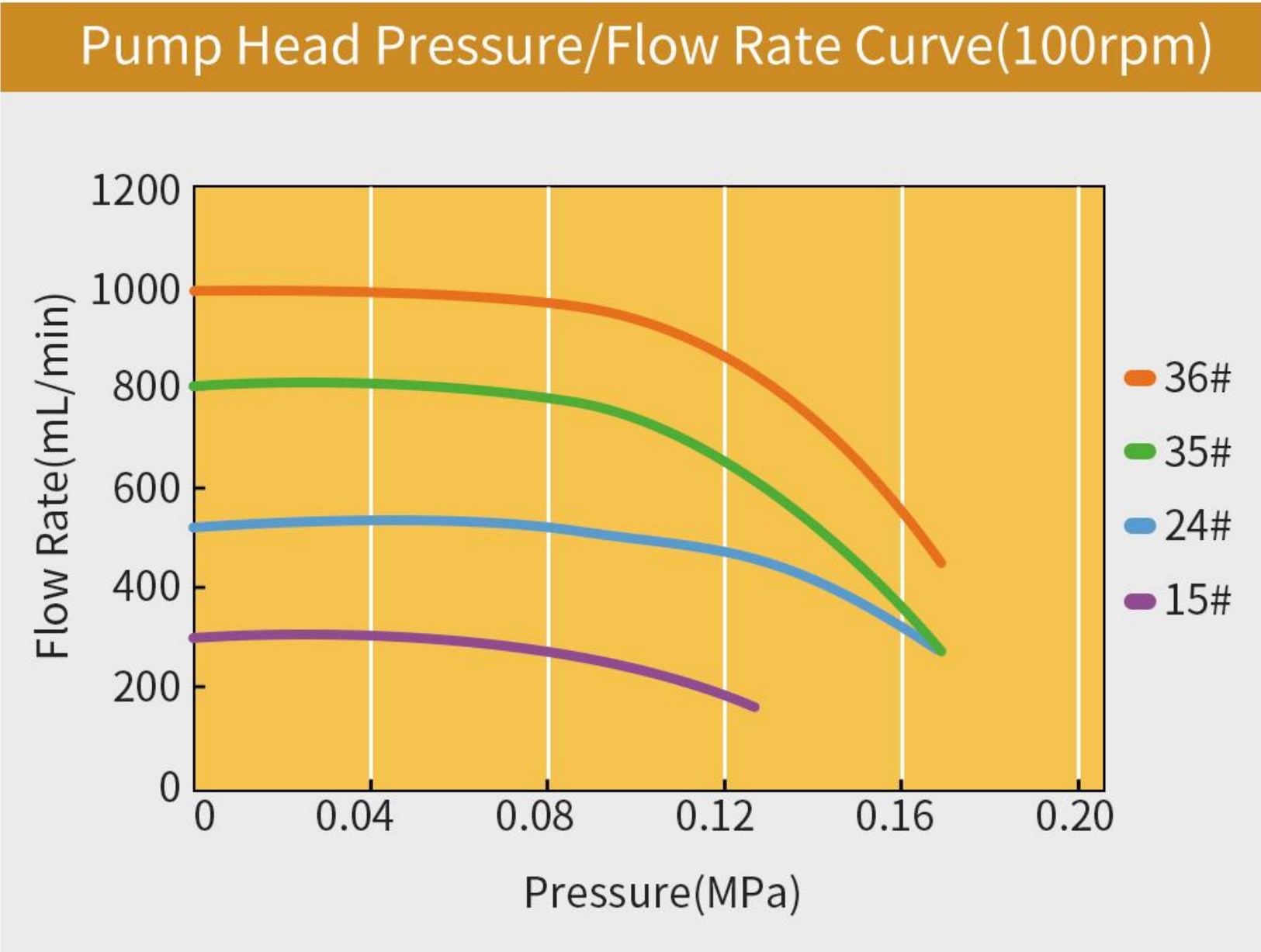
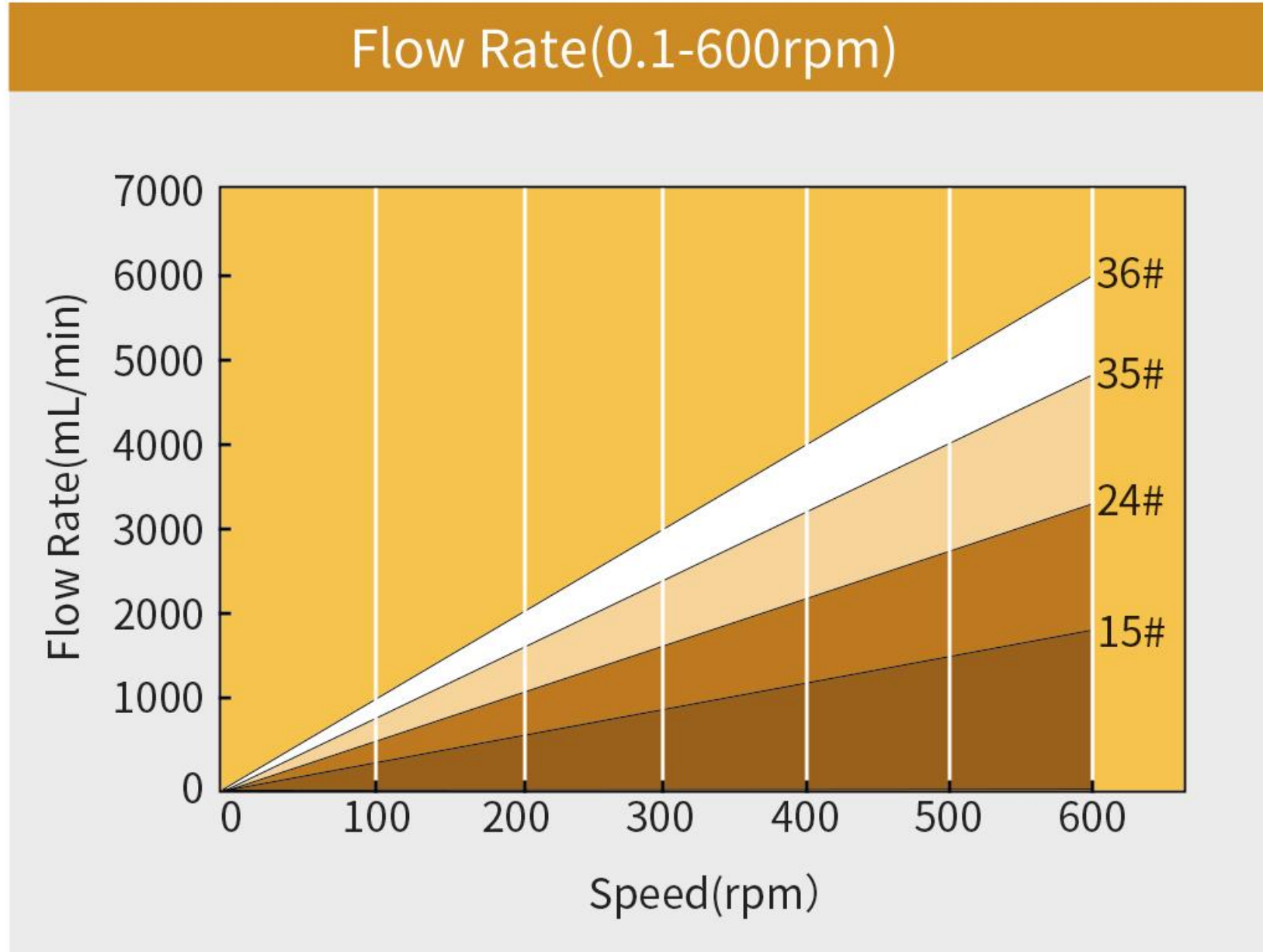
ExD-600-A/DZ25-6L



Dimension Drawing (Unit:mm)



DZ25-6L Pump Head Technical Specifications								
Pump Head	Housing Material	Tube Clamp Material	Speed (rpm)	mL/r	Tubing		Flow Rate (mL/min)	Weight (kg)
					Sizes	IDxWall Thickness(mm)		
DZ25-6L	PPS	Polyamide	0.1-600	3	15#	4.8X2.4	0.3-1800	0.85
				5.5	24#	6.4X2.4	0.55-3300	
	Aluminum alloy			8	35#	7.9X2.4	0.8-4800	1.87
				10	36#	9.6X2.4	1-6000	

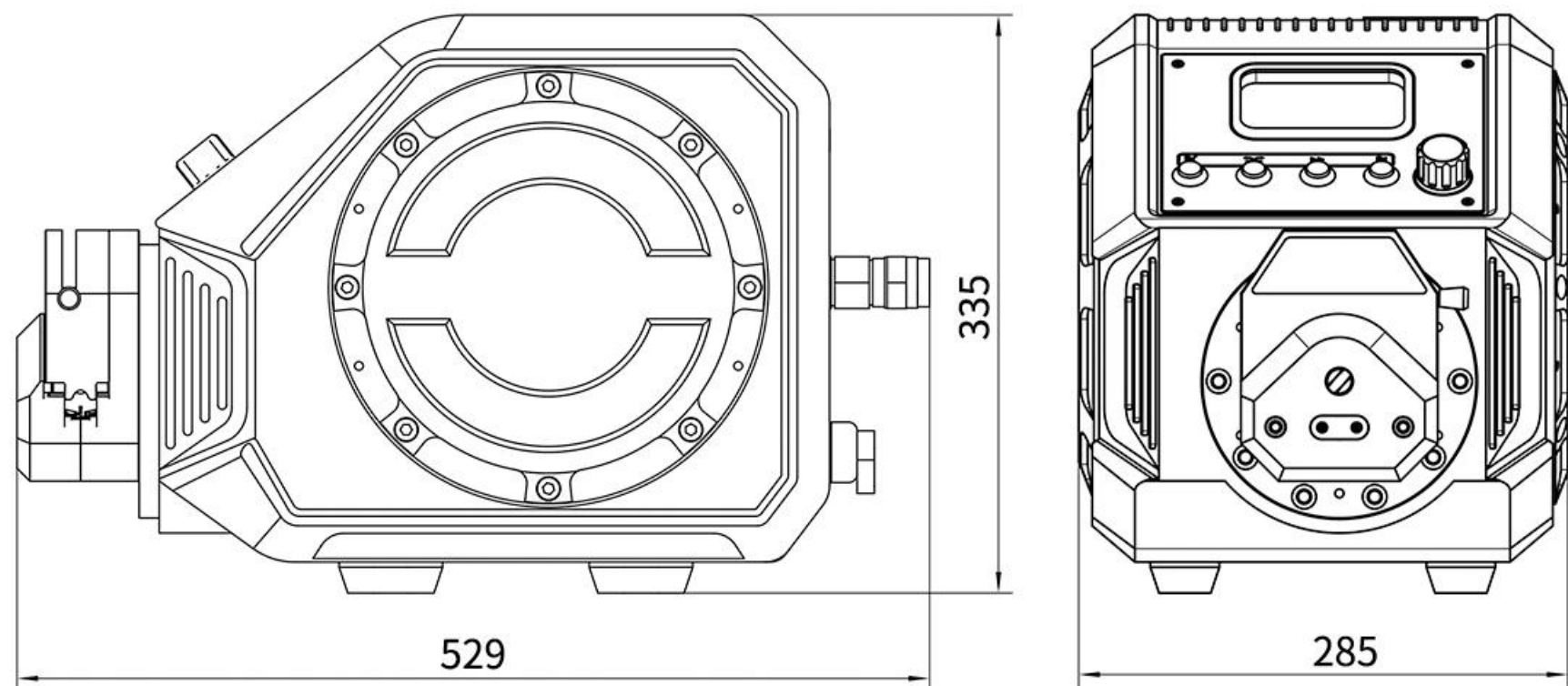


DZ25-6L Pump Head Filling Volume Reference Parameter						
Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
DZ25-6L	15#	30	1.2	0.5	27	500.0
	24#	50	1.2	0.5	27	454.6
	35#	70	1.2	0.5	27	437.5
	36#	100	1.5	0.5	24	400.0

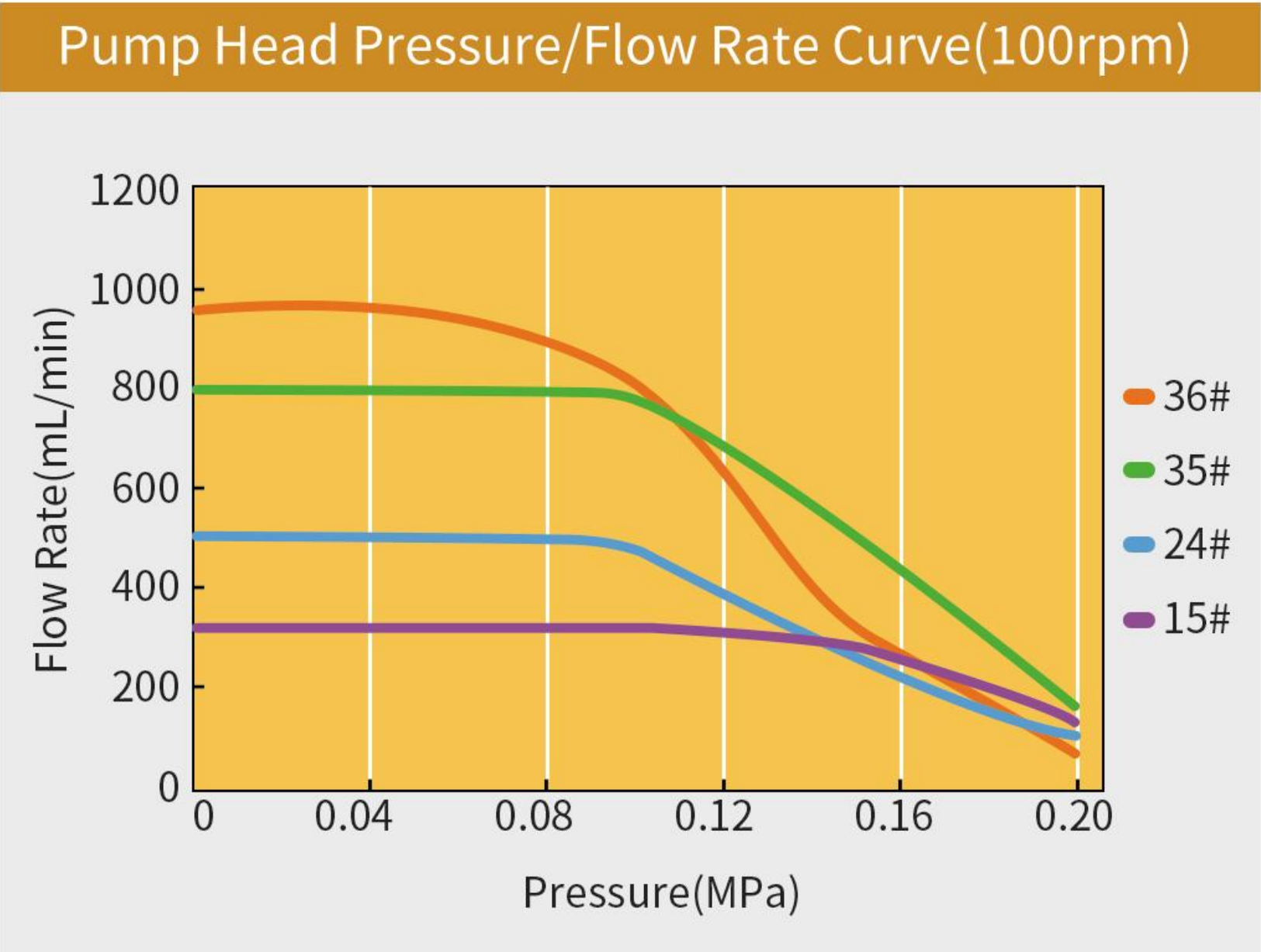
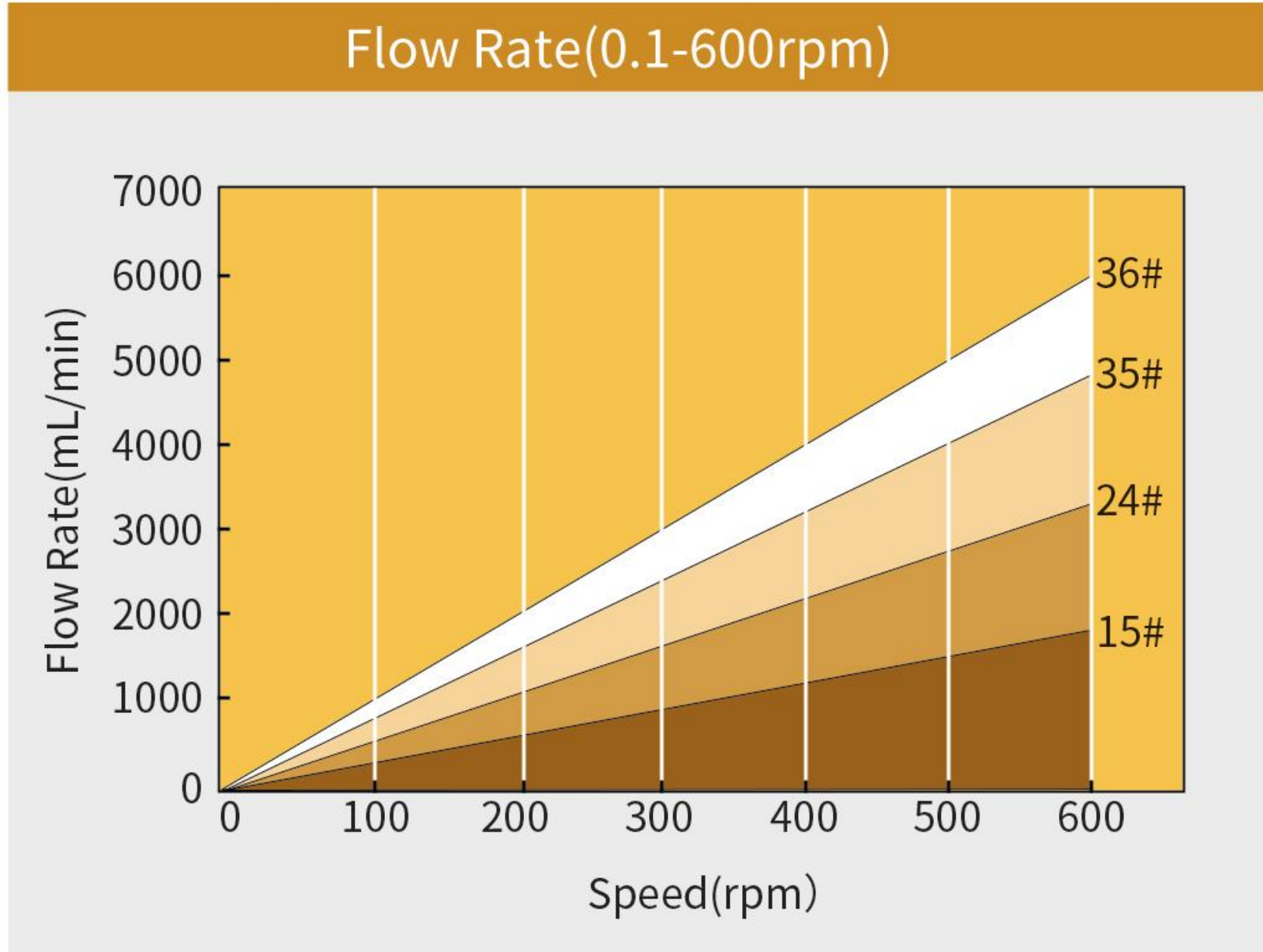
ExD-600-6L/YZ25-6L



Dimension Drawing (Unit:mm)



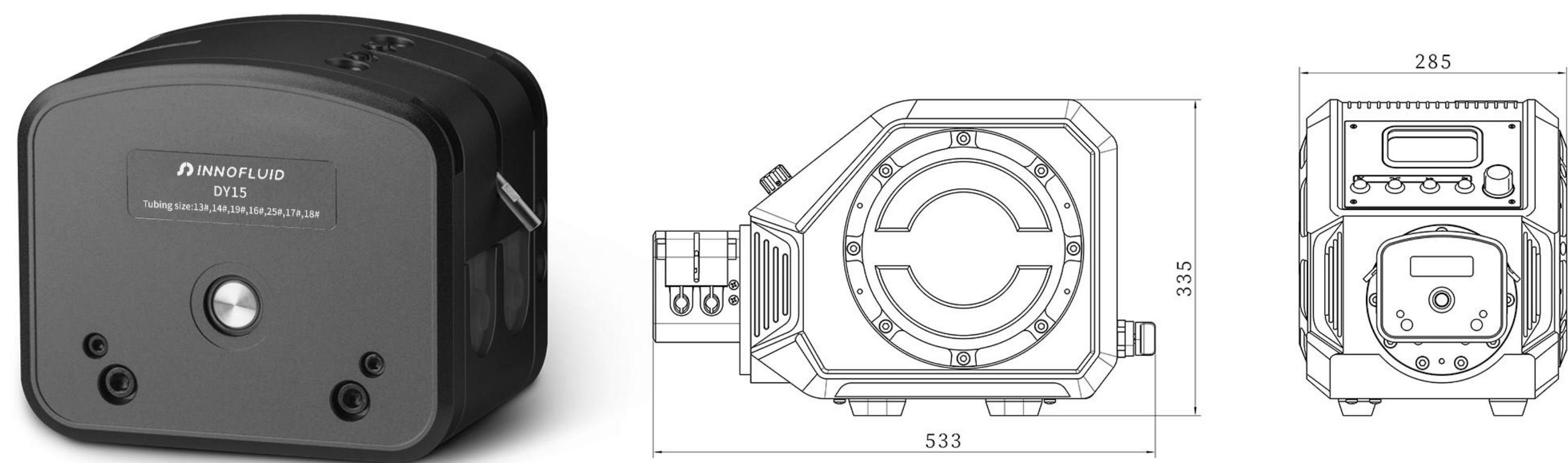
YZ25-6L Pump Head Technical Specifications								
Pump Head	Housing Material	Tube Clamp Material	Speed (rpm)	mL/r	Tubing		Flow Rate (mL/min)	Weight (kg)
					Sizes	IDxWall Thickness(mm)		
YZ25-6L	Aluminum alloy	POM	0.1-600	3	15#	4.8X2.4	0.3-1800	1.78
				5.5	24#	6.4X2.4	0.55-3300	
				8	35#	7.9X2.4	0.8-4800	
				10	36#	9.6X2.4	1-6000	



YZ25-6L Pump Head Filling Volume Reference Parameter						
Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
YZ25-6L	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	1.5	0.5	24	400.0

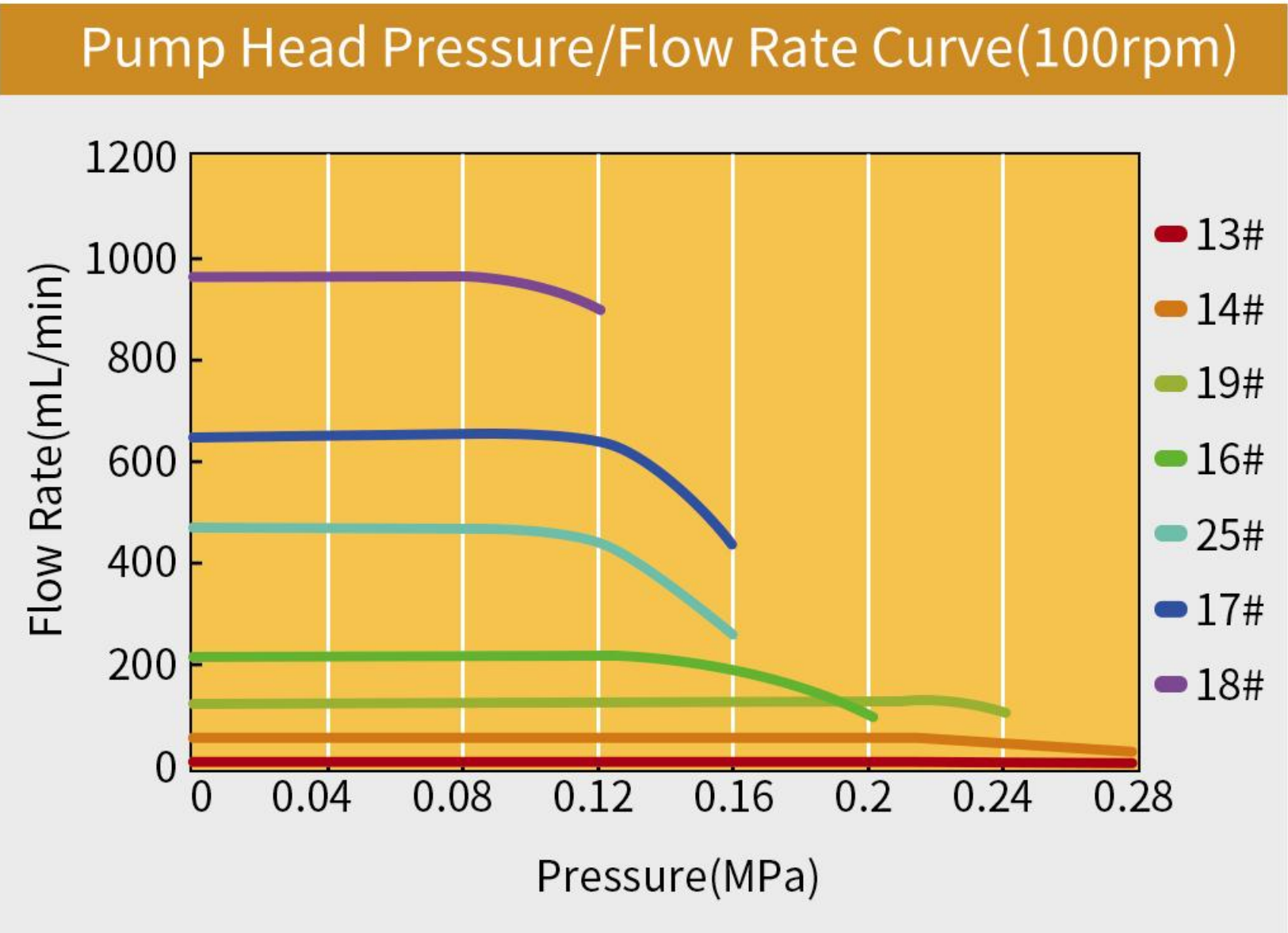
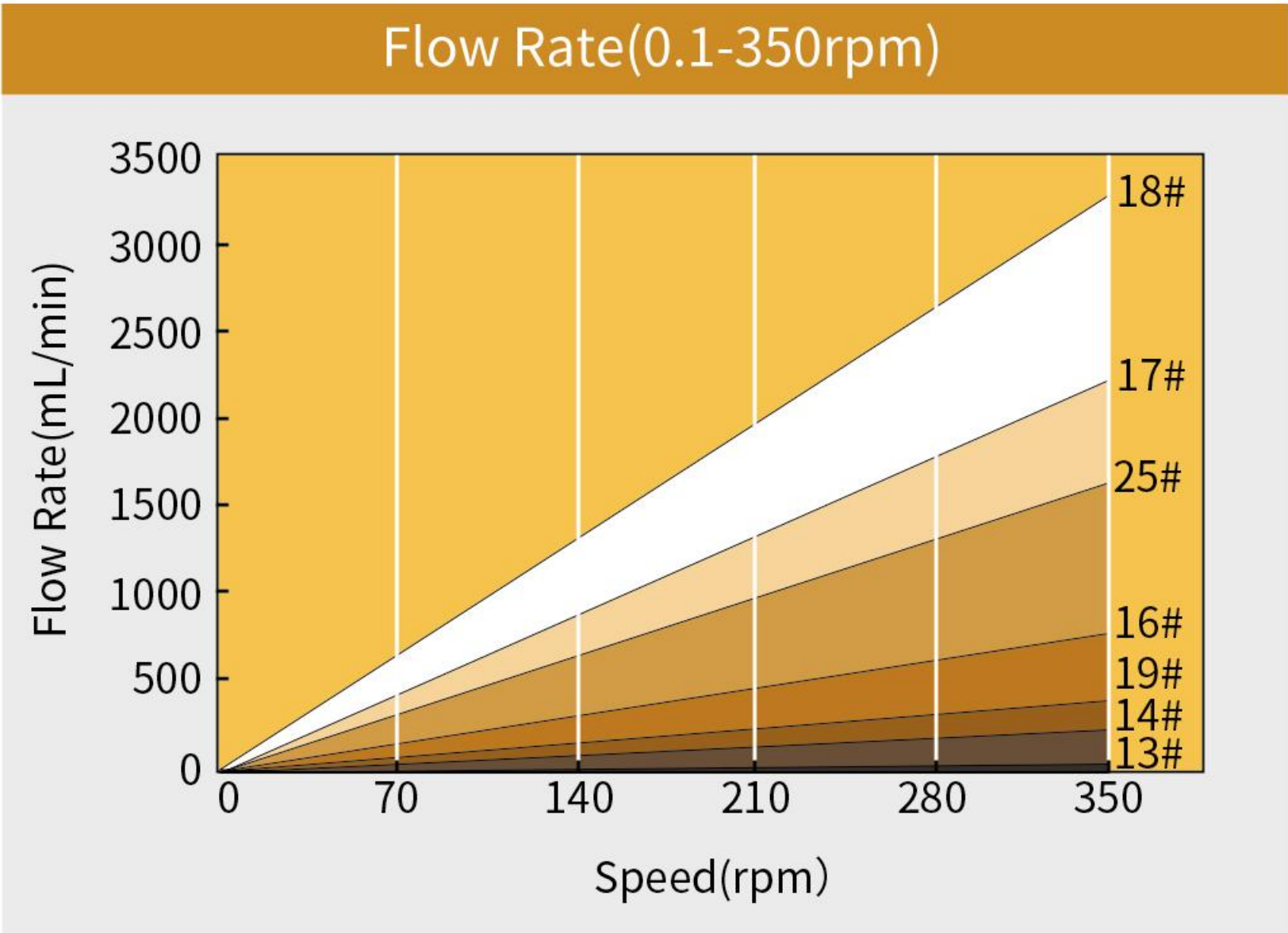
ExD-350-A/DY15

Dimension Drawing (Unit:mm)



DY15 Pump Head Technical Specifications

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

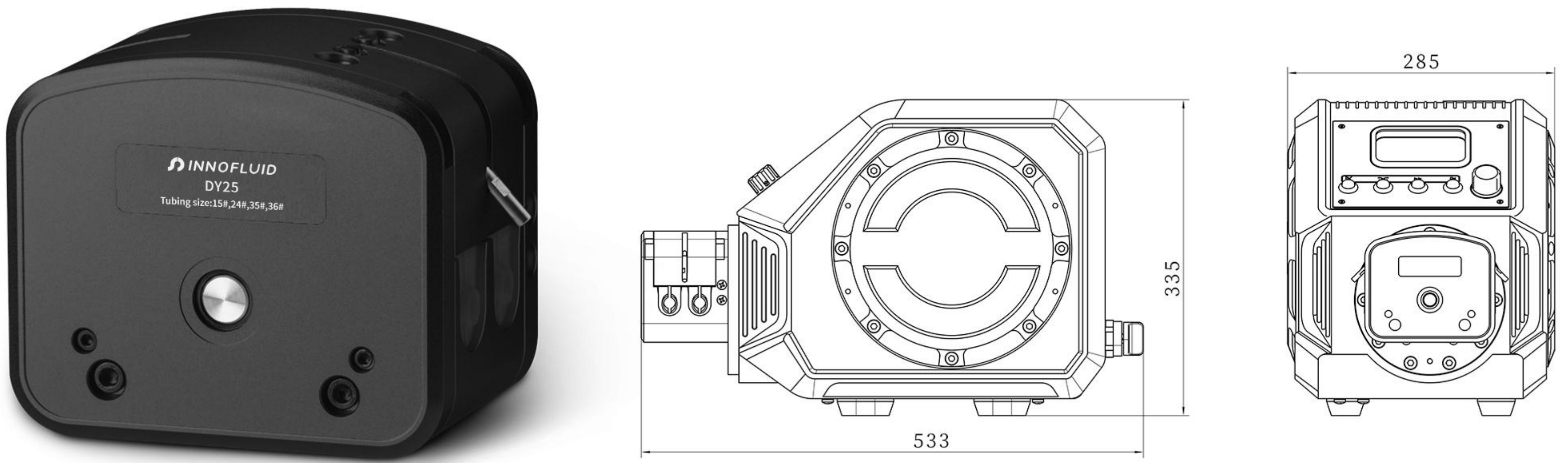


DY15 Pump Head Filling Volume Reference Parameter

Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
DY15	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

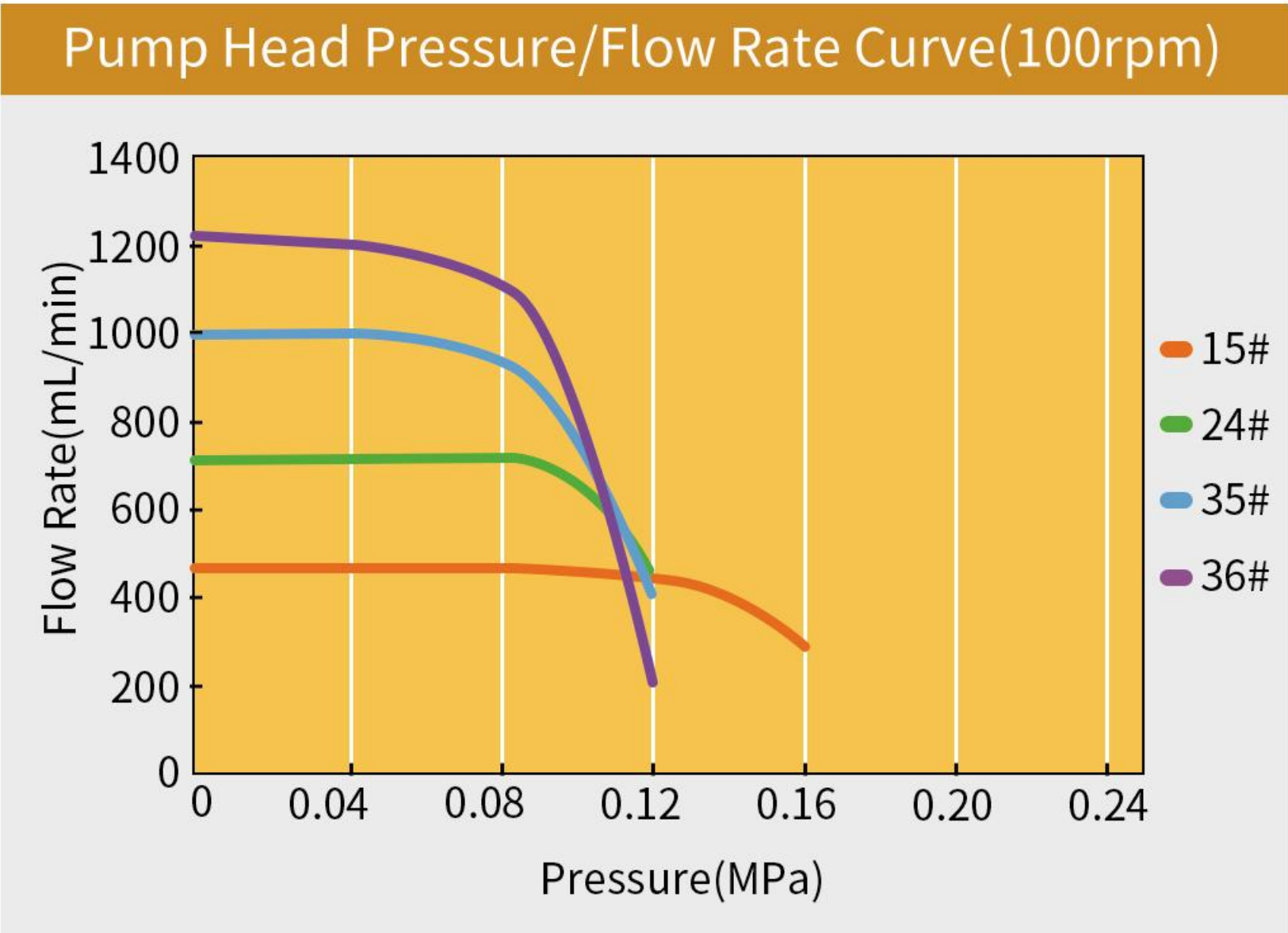
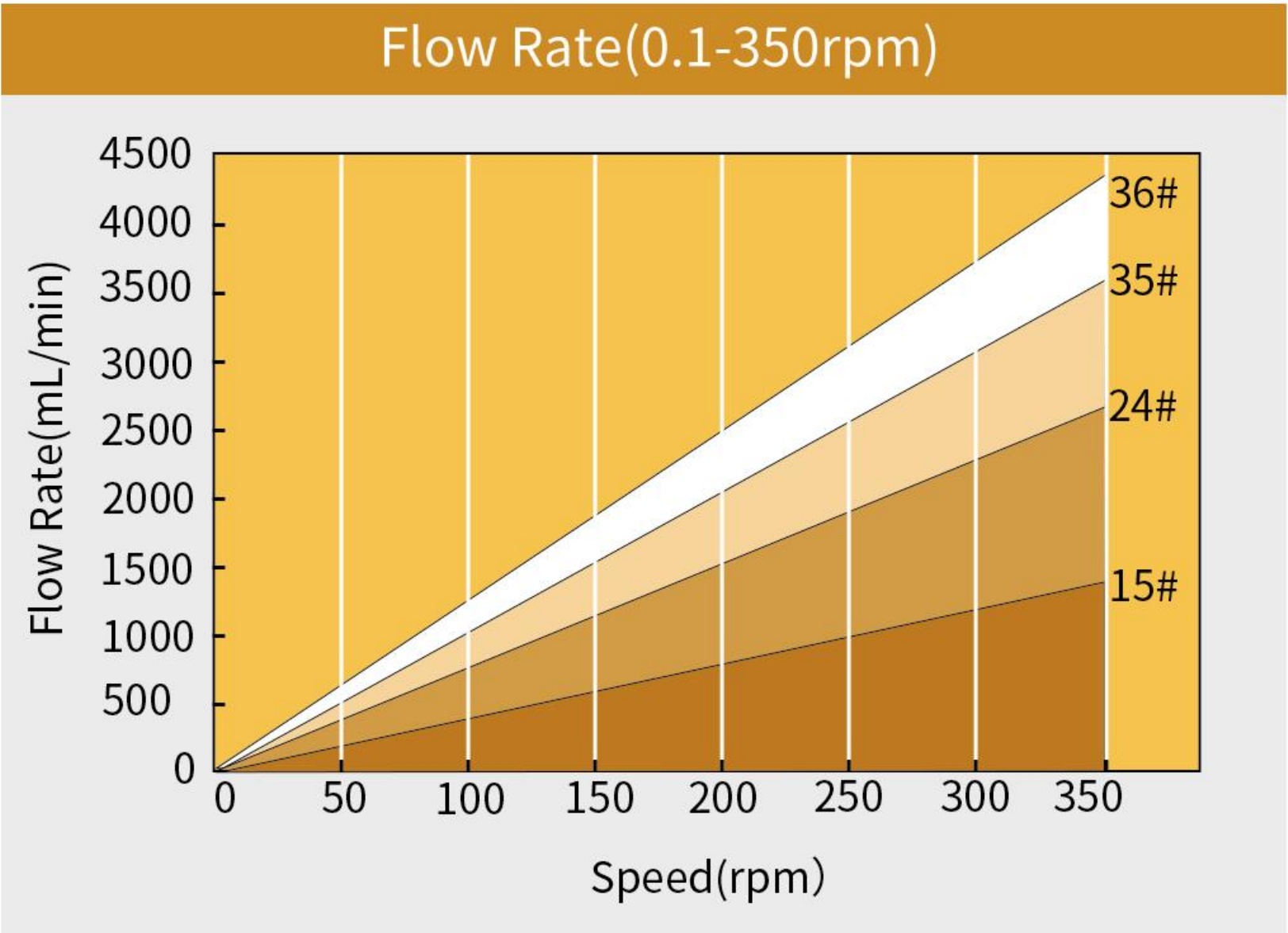
ExD-350-A/DY25

Dimension Drawing (Unit:mm)



DY25 Pump Head Technical Specifications

Pump Head	Housing Material	Tube Clamp Material	Speed (rpm)	mL/r	Tubing		Flow Rate (mL/min)	Weight (kg)
					Sizes	IDxWall Thickness(mm)		
DY25	Aluminum alloy	Polyamide	0.1-350	4.23	15#	4.8X2.4	0.42-1480	3.2
				7.63	24#	6.4X2.4	0.76-2670	
				10.29	35#	7.9X2.4	1.03-3600	
				12.40	36#	9.6X2.4	1.24-4340	



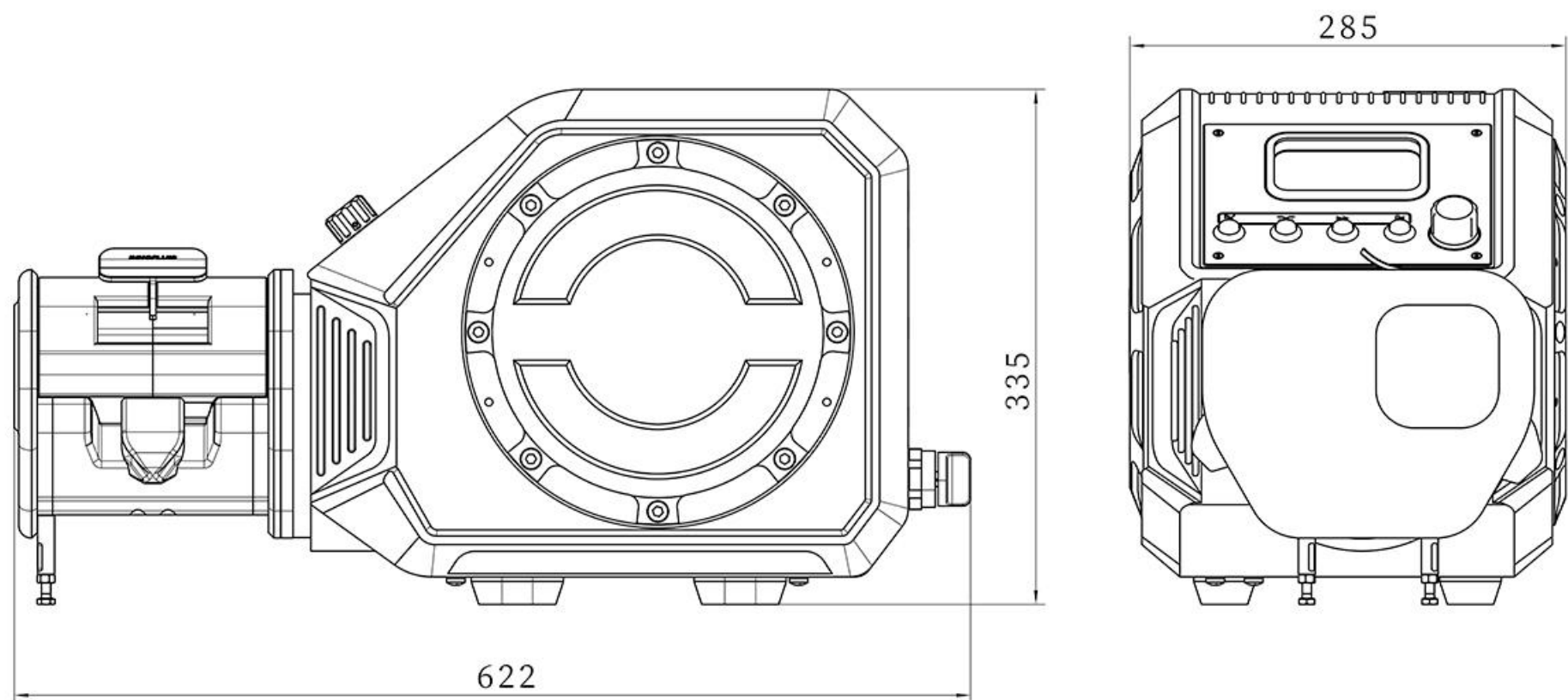
DY25 Pump Head Filling Volume Reference Parameter

Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
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

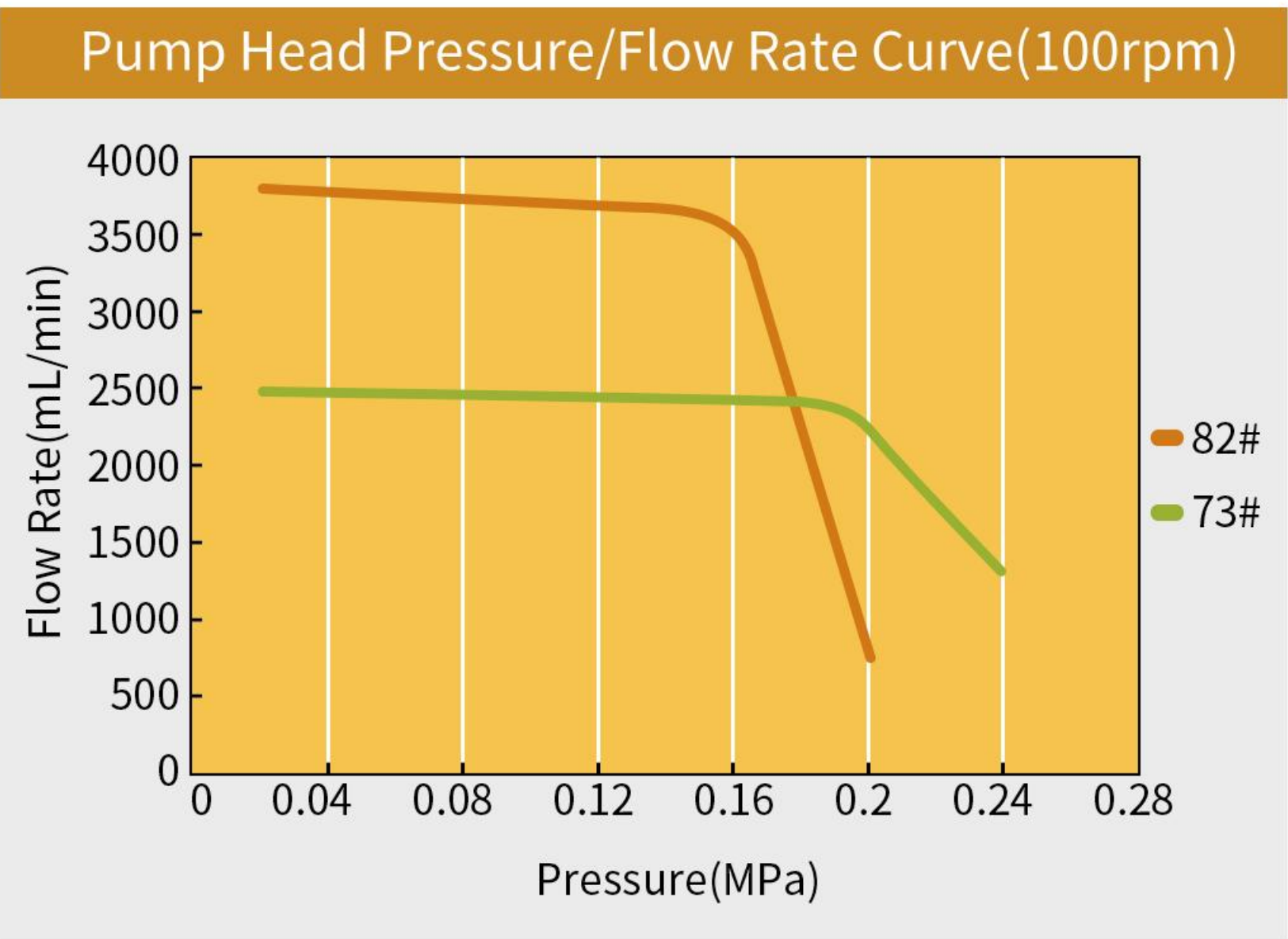
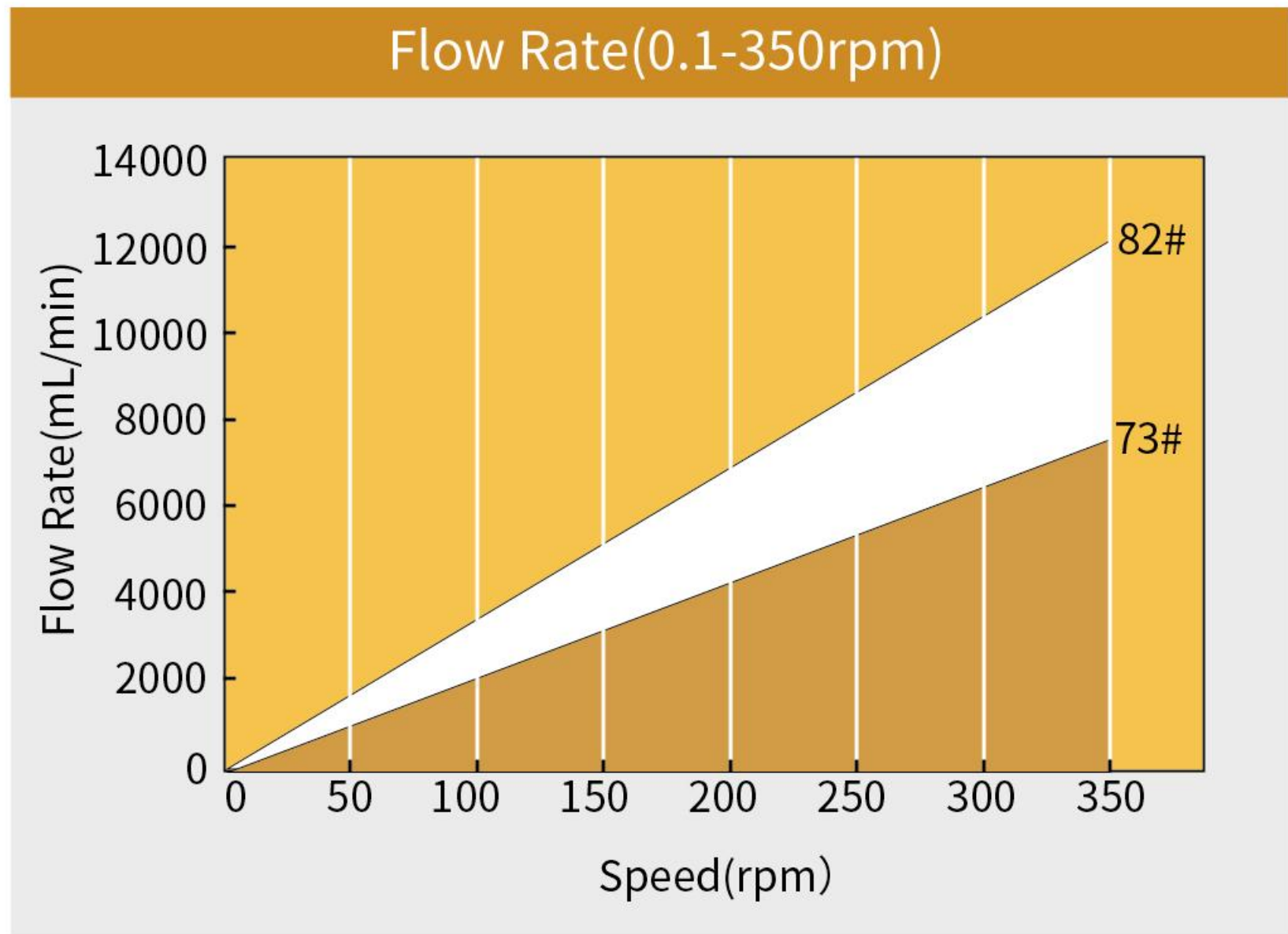
ExD-350-A/DY35



Dimension Drawing (Unit:mm)



DY35 Pump Head Technical Specifications							
Pump Head	Housing Material	Speed (rpm)	mL/r	Tubing		Flow Rate (mL/min)	Weight (kg)
				Sizes	IDxWall Thickness(mm)		
DY35	Aluminum alloy	0.1-350	22.5	73#	9.6x3.3	2.25-7875	10.6
			26.4	82#	12.7x3.3	3.64-12740	

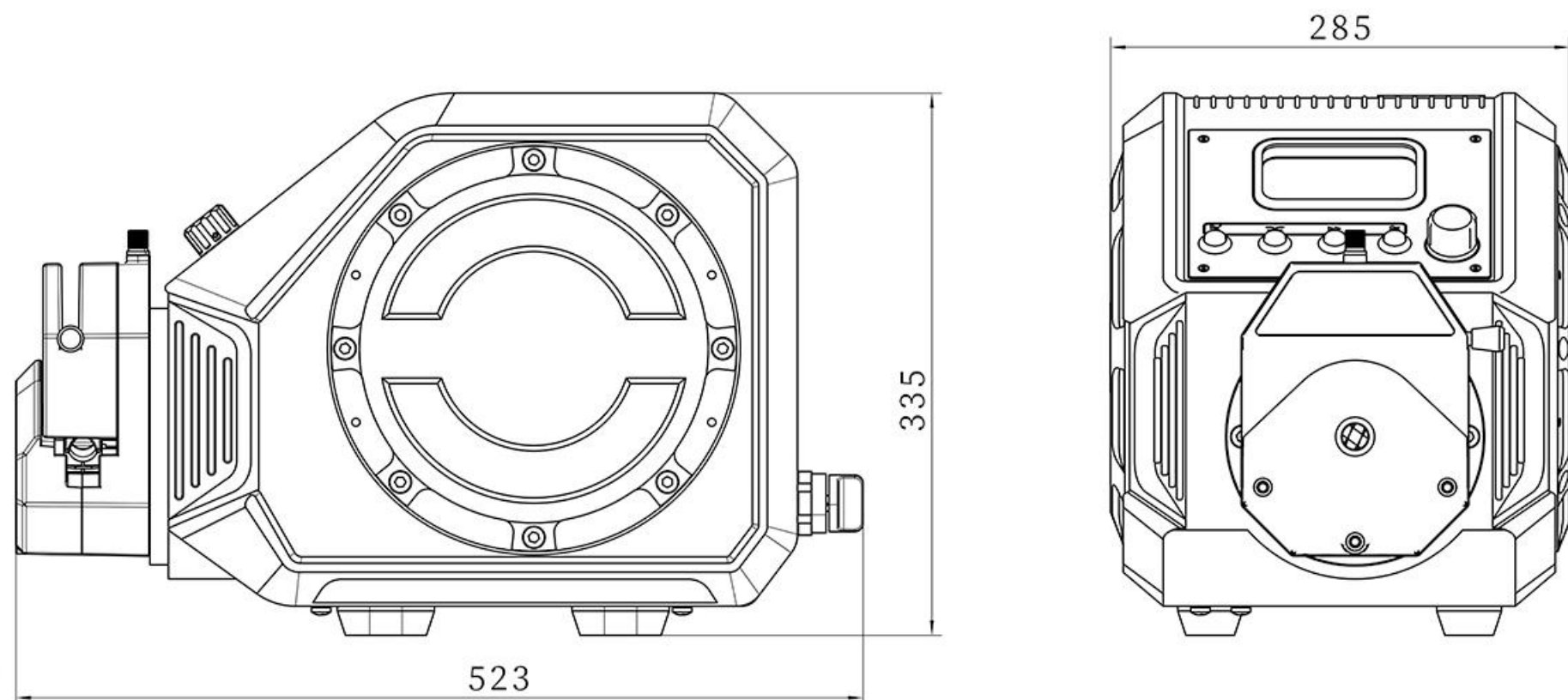


DY35 Pump Head Filling Volume Reference Parameter						
Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
DY35	73#	300	3	0.5	15	245.1
	82#	500	3	0.5	15	269.2

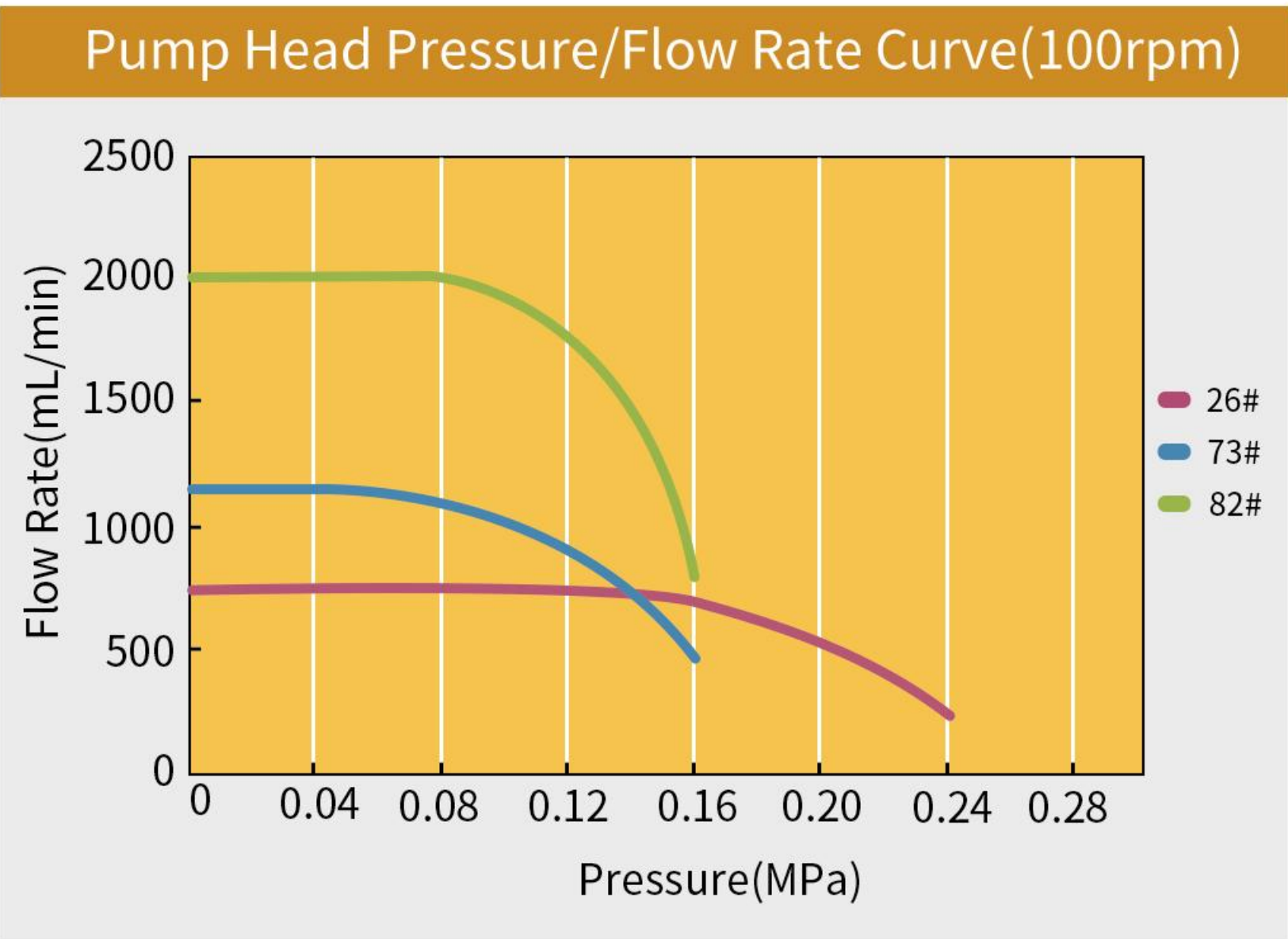
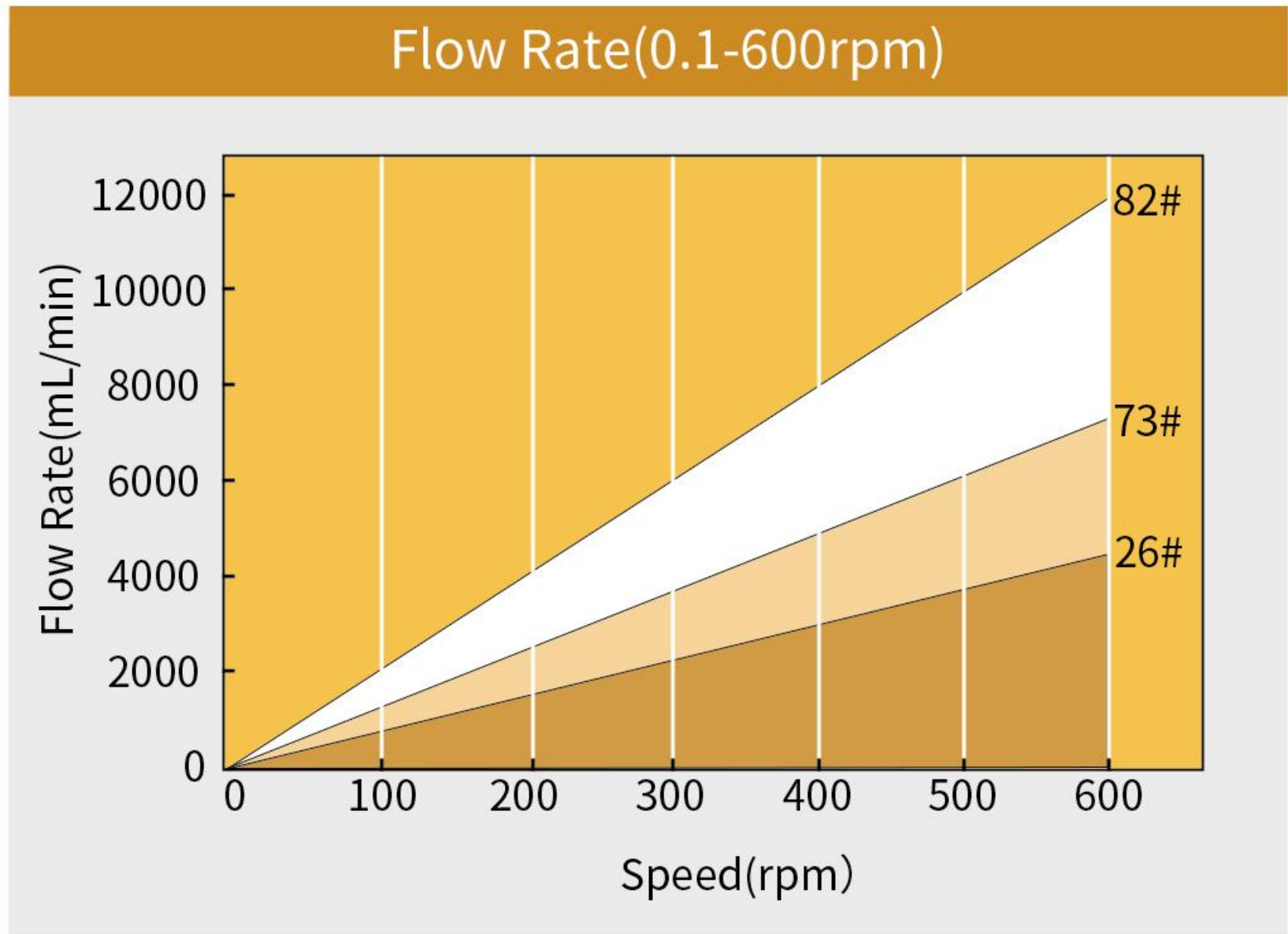
ExD-600-A/YZ35-II



Dimension Drawing (Unit:mm)



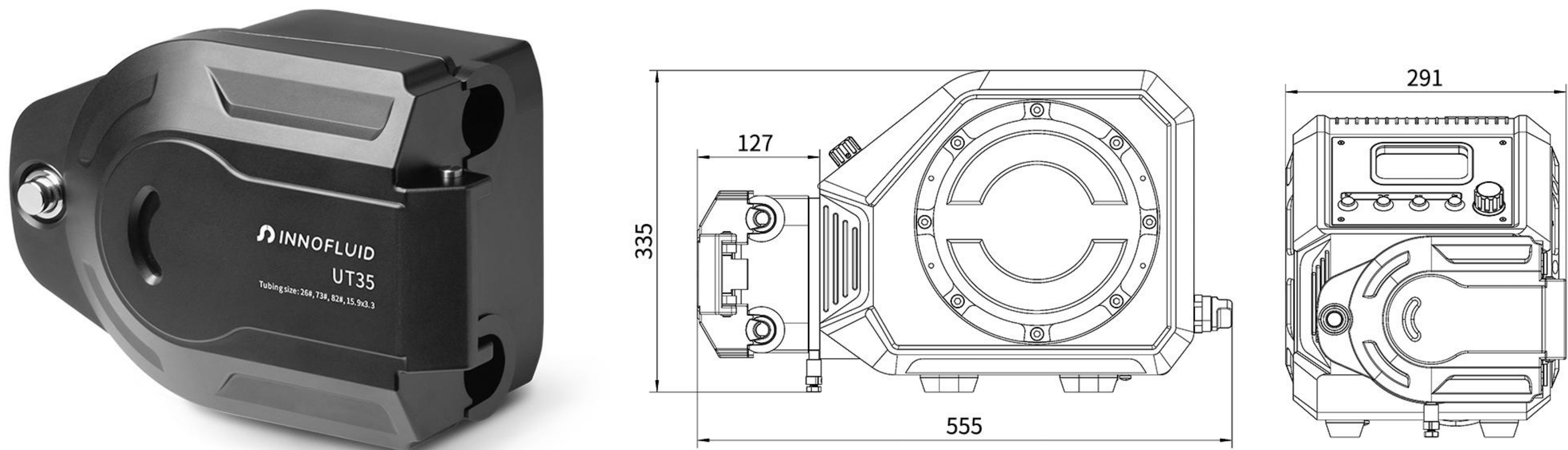
YZ35-II Pump Head Technical Specifications							
Pump Head	Housing Material	Speed (rpm)	mL/r	Tubing		Flow Rate (mL/min)	Weight (kg)
				Sizes	IDxWall Thickness(mm)		
YZ35-II	Cast aluminum alloy	0.1-600	6.9	26#	6.4x3.3	0.69-4200	2.8
			12.3	73#	9.6x3.3	1.23-7400	
			20	82#	12.7x3.3	2-12000	



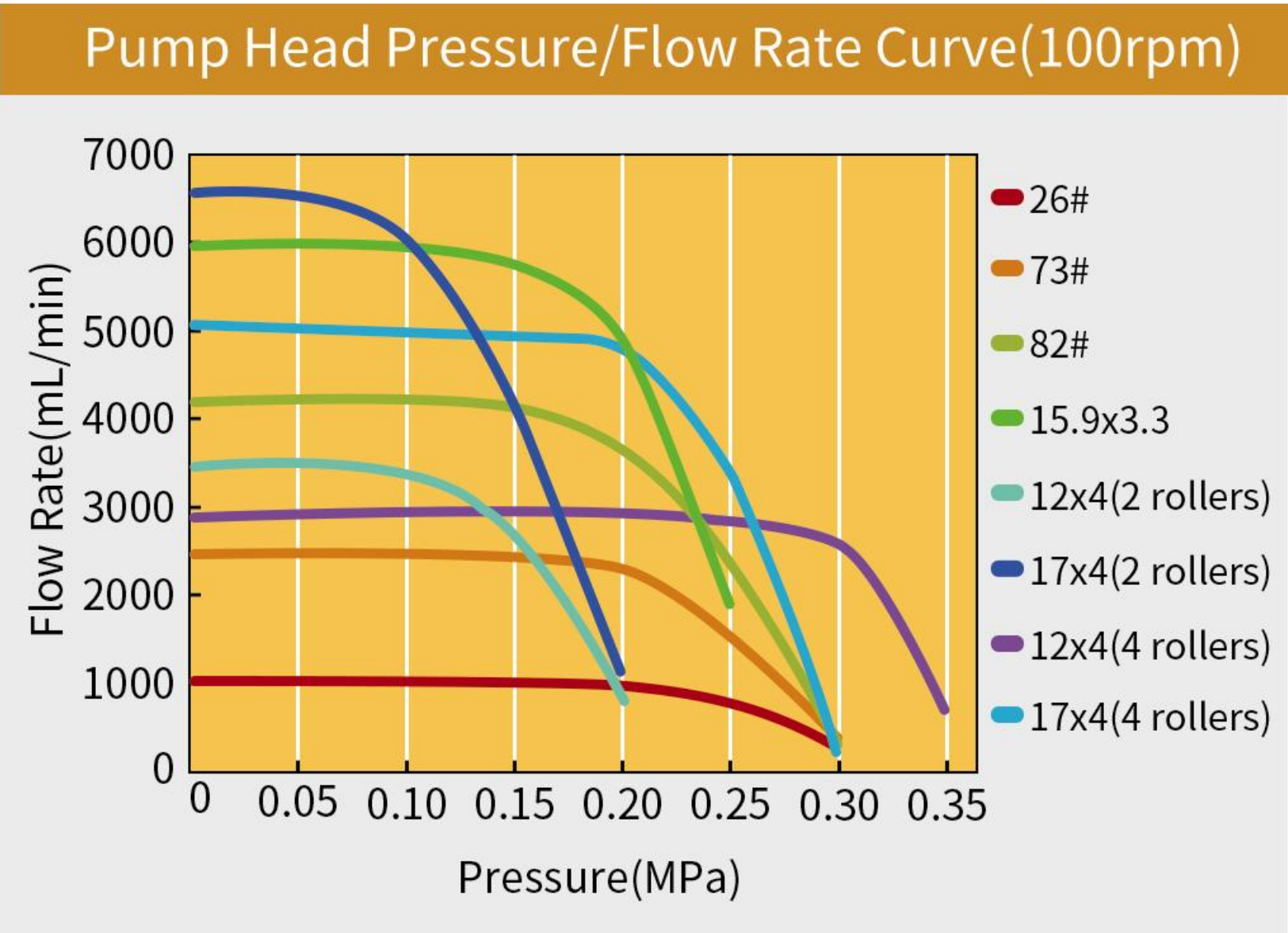
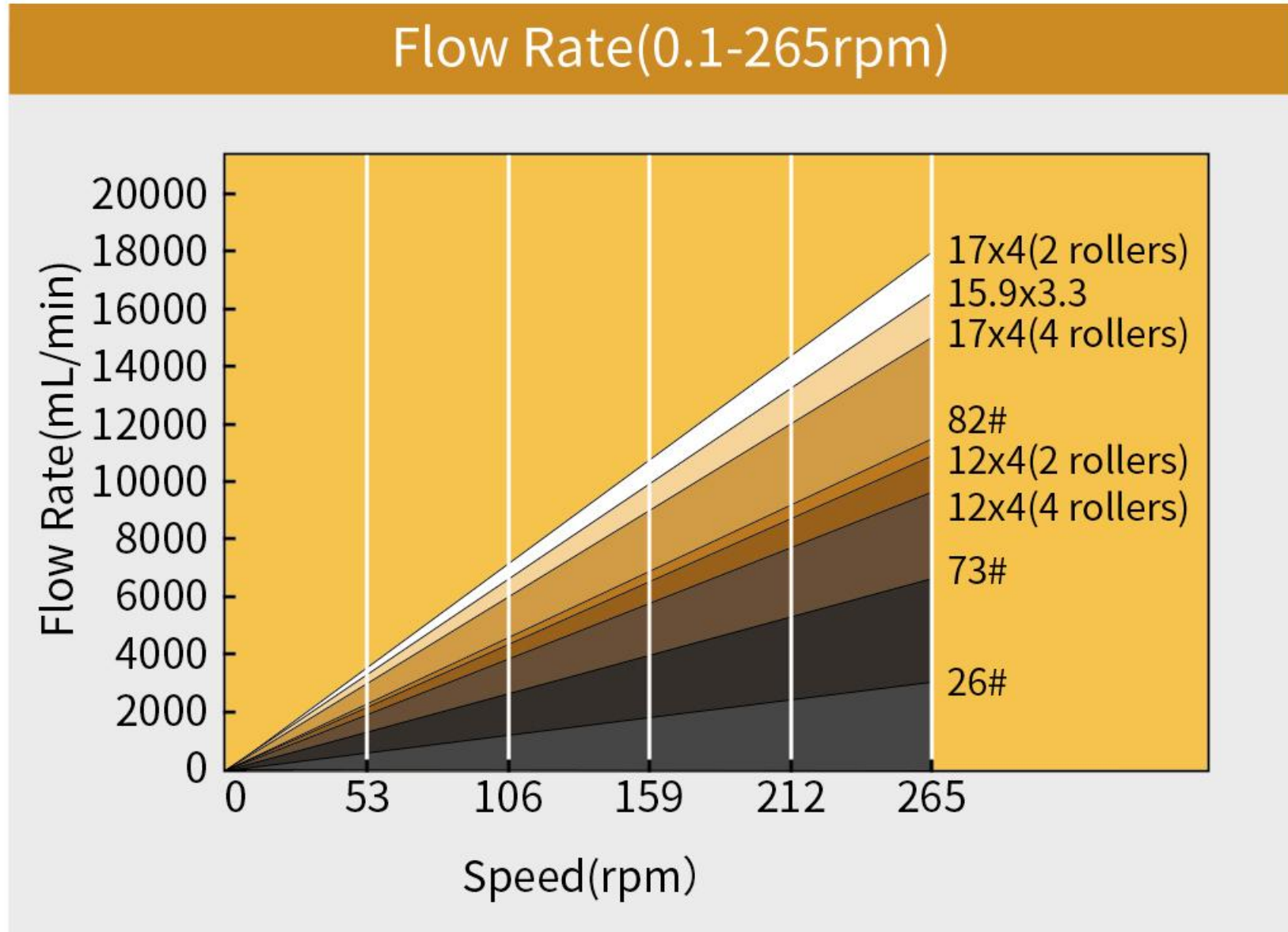
YZ35-II Pump Head Filling Volume Reference Parameter						
Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (±%)	Output (pcs/min)	Motor Speed (rpm)
YZ35-II	26#	50	1	0.5	30	428.6
	26#	100	2	0.5	20	428.6
	73#	100	1.2	0.5	27	406.5
	73#	150	2	0.5	20	365.9
	82#	200	1.5	0.5	24	400.0

ExD-300-18L/UT35

Dimension Drawing (Unit:mm)



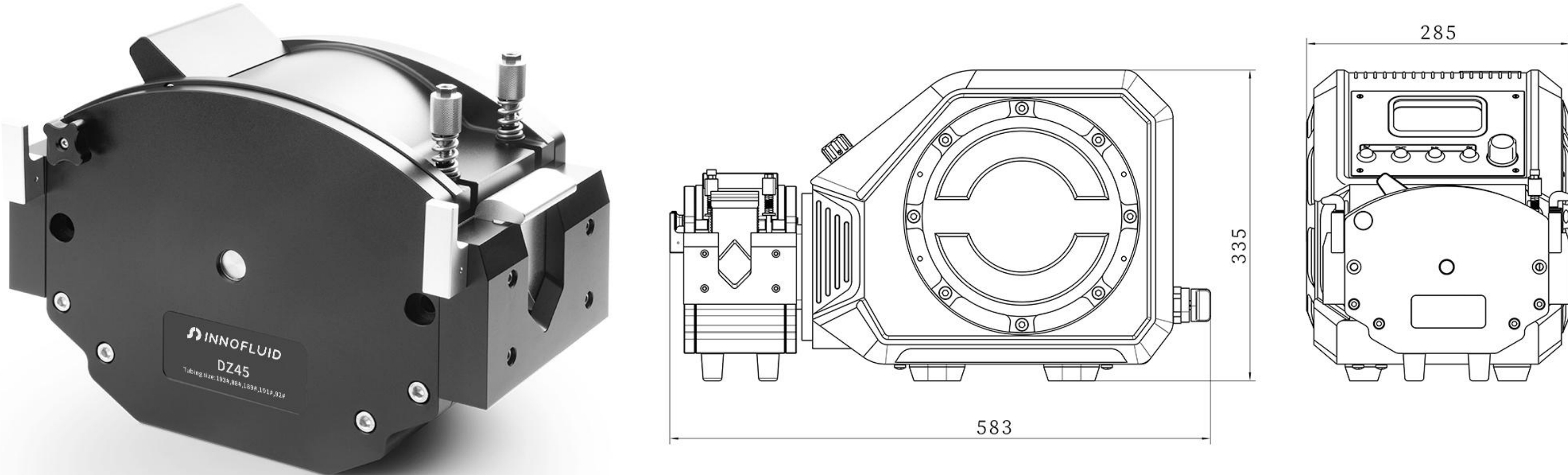
UT35 Pump Head Technical Specifications									
Pump Head	Speed (rpm)	Rollers number	Tubing		mL/r	Flow Rate (mL/min)	Tubing Max.Pressure(Mpa)		Weight (kg)
			Sizes	IDxWall Thickness(mm)			Intermittent	Continuous	
UT35(4)	0.1-265	4 rollers	12x4	12x4	34.34	3.434-9100	0.12	0.1	4.65
			17x4	17x4	55.85	5.585-14800	0.11	0.1	
UT35(2)		2 rollers	26#	6.4x3.3	11.32	1.132-3000	0.15	0.12	3.99
			73#	9.6x3.3	24.15	2.415-6400	0.16	0.12	
			82#	12.7x3.3	42.26	4.226-11200	0.15	0.1	
			15.9x3.3	15.9x3.3	62.75	6.275-16630	0.15	0.12	
			12x4	12x4	41.5	4.150-11000	0.15	0.12	
			17x4	17x4	67.92	6.792-18000	0.13	0.12	



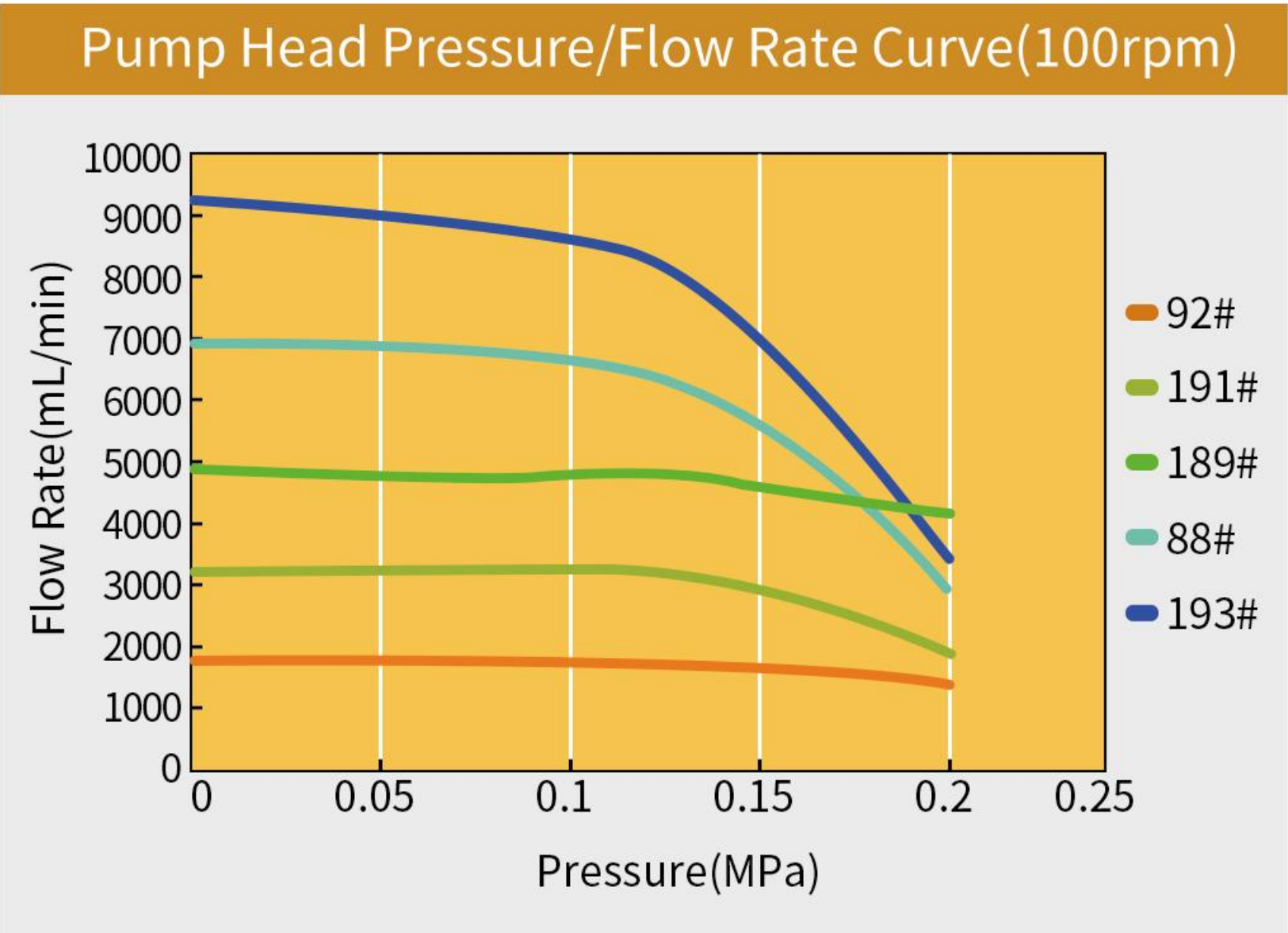
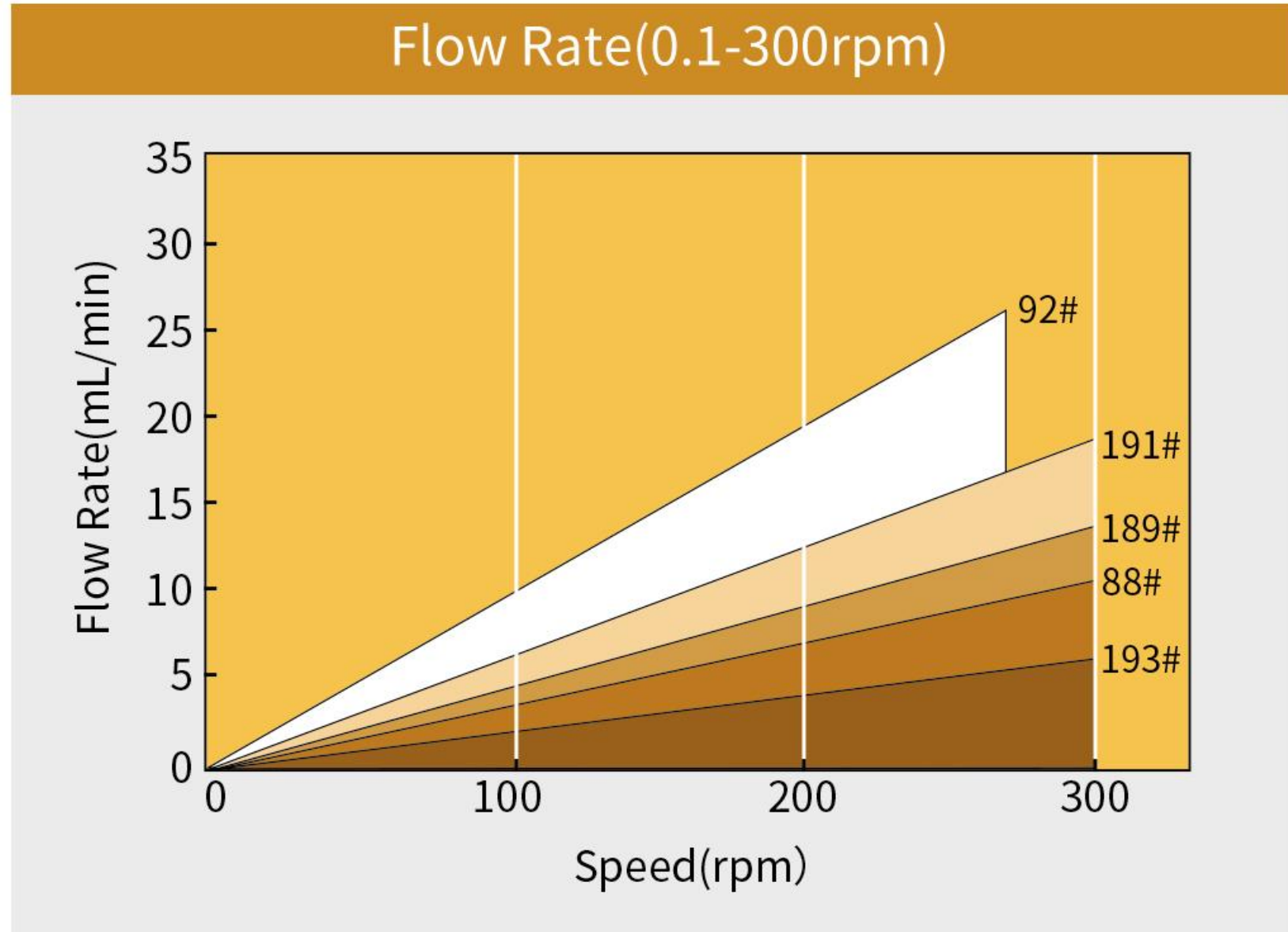
UT35 Pump Head Filling Volume Reference Parameter						
Pump Head	Tubing	Filling Volume(mL)	Filling Time(s)	Accuracy(±%)	Output(pcs/min)	Motor Speed(rpm)
UT35(2)	26#	150	4	1	15	197.5
	73#	300	4	0.5	15	180
	82#	500	4	0.5	15	176
	15.9x3.3	800	4	1	15	208
	12x4	500	4	0.5	15	199.5
	17x4	800	4	1	15	193.7
UT35(4)	12x4	200	2	0.5	30	203
	12x4	500	4	1	15	241.5
	17x4	800	4	1	15	220

ExD-1200-A/DZ45-II

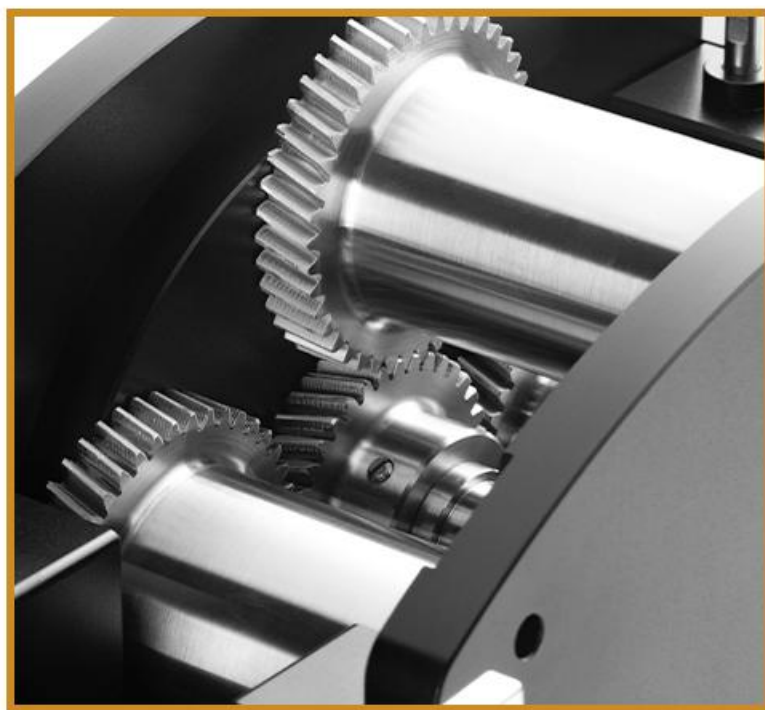
Dimension Drawing (Unit:mm)



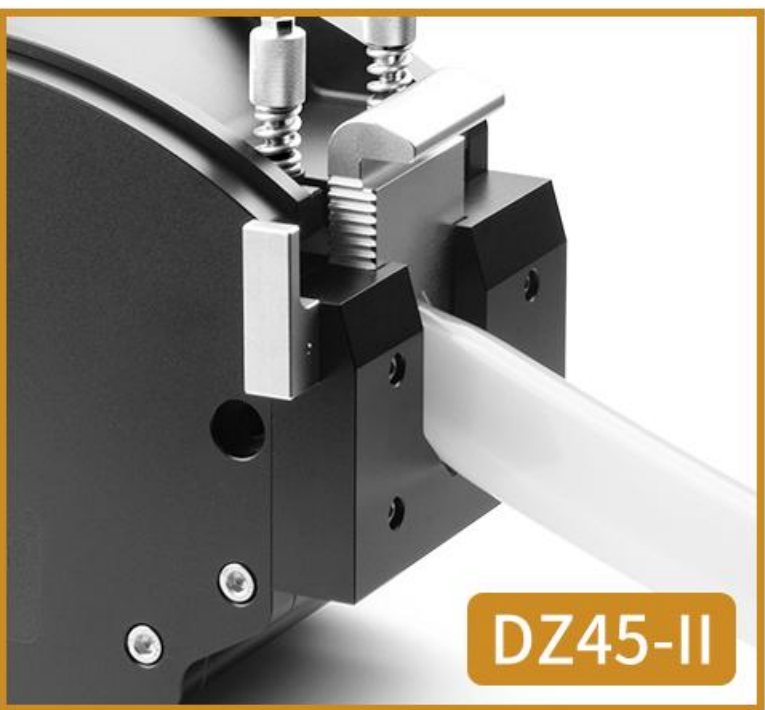
DZ45 Pump Head Technical Specifications								
Pump Head	Housing Material	Tube Clamp Material	Speed (rpm)	L/r	Tubing		Flow Rate (L/min)	Weight (kg)
					Sizes	IDxWall Thickness(mm)		
DZ45 Series	Aluminum alloy	Aluminum alloy	0.1-300	0.019	193#	9.6x4.8	0.0019-5.66	10
				0.035	88#	12.7x4.8	0.0035-10.5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



Roller display



Takeover method







No:BA0500061-2023



211520110775





中国认可
国际互认
检测
TESTING
CNAS L1177

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

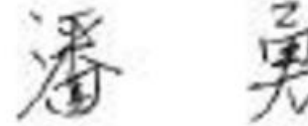
No: BA0500061-2023

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: Reviewer: Tested by: 

Date: 2023-03-10Date: 2023-03-10Date: 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.

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.

According to IEC 60079-10-1:2020 Explosive Atmospheres Part 10-1: Classification of areas - Explosive gas atmospheres: 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

Ex db II C T4

The maximum surface temperature level of the device
Gas level
Equipment category
flameproof enclosure
Explosion proof mark

Maximum surface temperature grouping for Class II electrical equipment

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									
Temperature class		T1		T2		T3	T4	T5	T6
category	I	methane		—		—	—	—	—
	II A	Acetic acid acetone acetonitrile Allyl fluorine ammonia aniline Styrene Benzene Methylstyrene Tritoluene penta-2-one (Methylpropyl ketone)	Cresol Bromoethane Isobutane Butyryl fluoride Chloromethane propane Chloroethane petroleum Nitrogen (impurity) benzene	Cyclopentane Methylcyclo- pentane 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 tetrafluor- oethylene	—	—
	II C	Hydrogen		Acetylene		—	—	Carbon disulfide	—

Explosive gas group				
Equipment Group	Representative gas	Gas classification	MESG	MIC Ratio
I	Methane	—	—	—
II A	Propane	A	≥ 0.9 mm	> 0.8
II B	Ethylene	B	0.5–<0.9 mm	0.45–0.8
II C	Hydrogen/Acetylene	C	≤ 0.5 mm	< 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	IIIC	IIIB	IIIA
“ta”	IP6X	IP6X	IP6X
“tb”	IP6X	IP6X	IP5X
“tc”	IP6X	IP5X	IP5X

Description of IP protection level (According to 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.

0	No protection
1	Fixed foreign object with a diameter greater than 50mm
2	Fixed foreign object with a diameter greater than 12mm
3	Fixed foreign object with a diameter greater than 2.5mm
4	Fixed foreign object with a diameter greater than 1.0mm
5	Dustproof
6	Dusty

Second special identification number to prevent harmful effects from ingress of water

0	No protection
1	Vertical drip
2	15° drip
3	Deluge
4	Splash
5	Spray water
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	0.13x0.86	0.5x0.86	0.86x0.86	1.52x0.86	2.06x0.86	2.79x0.86	1x1	2x1	3x1	2.4x0.8
Tubing cross sections(1:1)										
Wall thickness (mm)	0.86						1.0			0.8
ID (mm)	0.13	0.5	0.86	1.52	2.06	2.79	1.0	2.0	3.0	2.4
Maximu pressure (Mpa)	Continuous									
	Intermittent									

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				
ID (mm)	0.8	1.6	2.4	3.2	4.8	6.4	7.9	4.8	6.4	7.9	9.6
Maximu pressure (Mpa)	Continuous				0.14	0.1	0.07	0.17		0.14	
	Intermittent				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	
ID (mm)	6.4	9.6	12.7	9.5	19	12.7	25.4
Maximu pressure (Mpa)	Continuous			0.25			
	Intermittent			0.3			

