ALLEDOSIEREN ™ Dosing pump

The new head by MACHINING 002337-1197

F series V Series C Series

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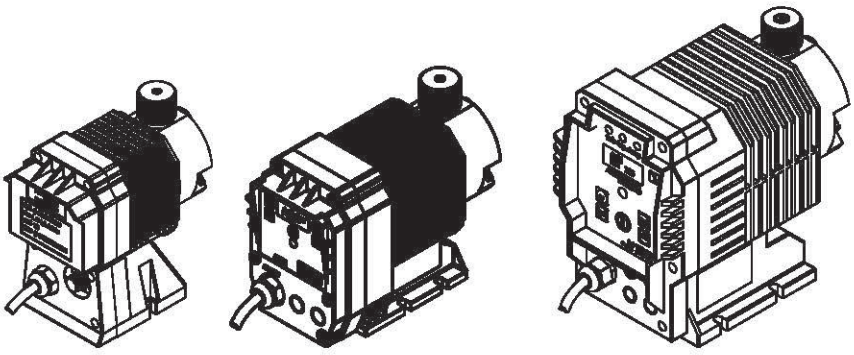

Please read the operating instructions manual through completely before commissioning this equipment
Do not discard, the operator shall be liable for any damage caused by installation or operating errors

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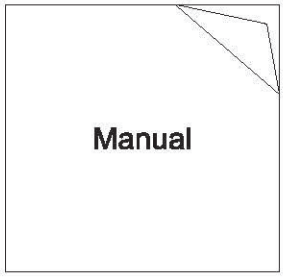
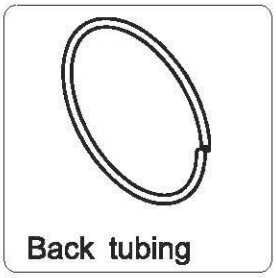
1 Unpacking

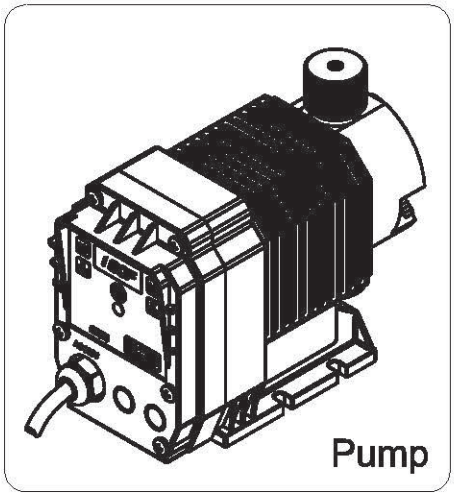

Anti-syphon valve*

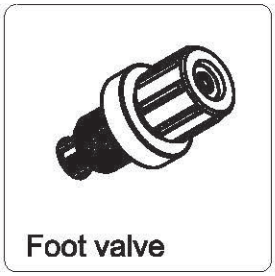

Discharge tubing

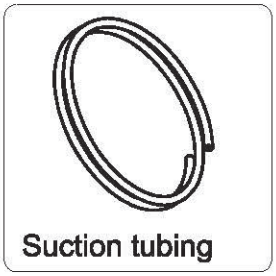

Manual


Injection valve


Back tubing


Pump


Foot valve


Suction tubing

Packing list

Number	Name	Quantity	Material
A0011552*	Anti-syphon valve	1	Polypropylene
A001256	Injection valve	1	Polypropylene
A001257	Foot valve	1	Polypropylene
A001158	Discharge tubing	1	3. 2m/Polyethylene
A001159	Suction tubing	1	1. 6m/Polyvinyl chloride
A001160**	Back tubing	1	0.8m/Polyvinyl chloride

* A0011552 may not be included in the packing list , Please contact the dealer to buy if you need it;
** A001160 just for the type of exhaust function;

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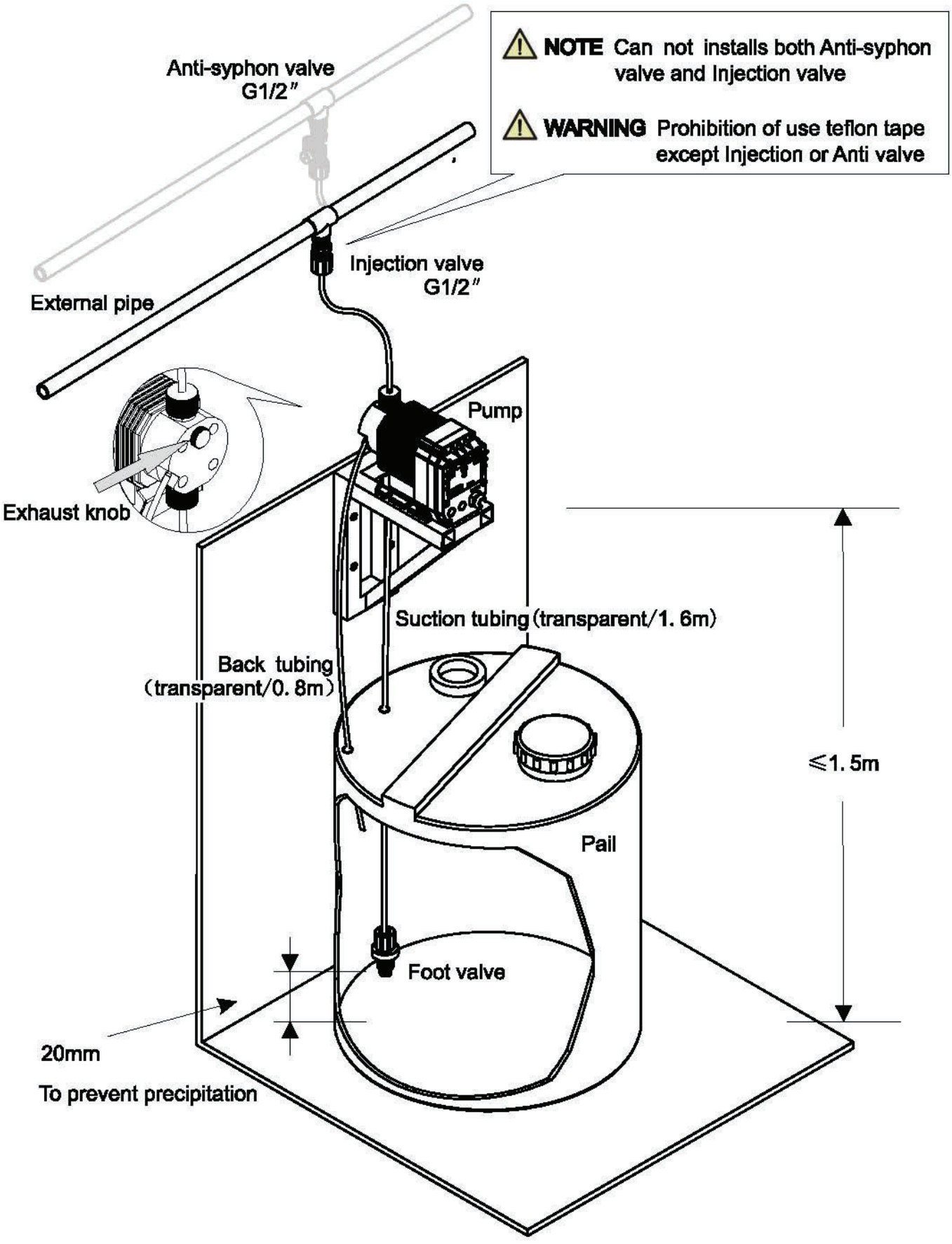
2 Install

2.1.1 Typical installation



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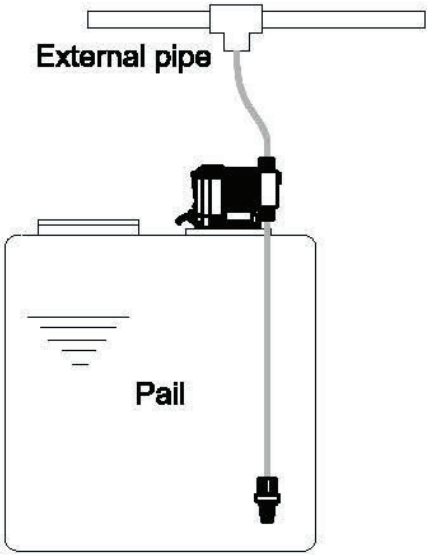
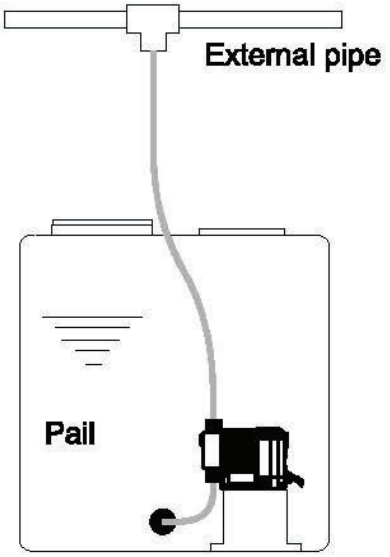
2. 1. 2 Other Installation(Simple)



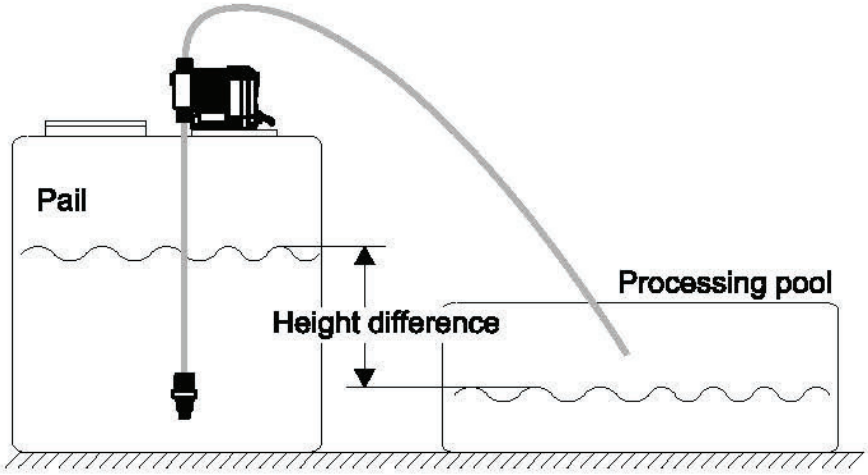
Pump on the pail

2. 1. 3 Other Installation(Perfusion)



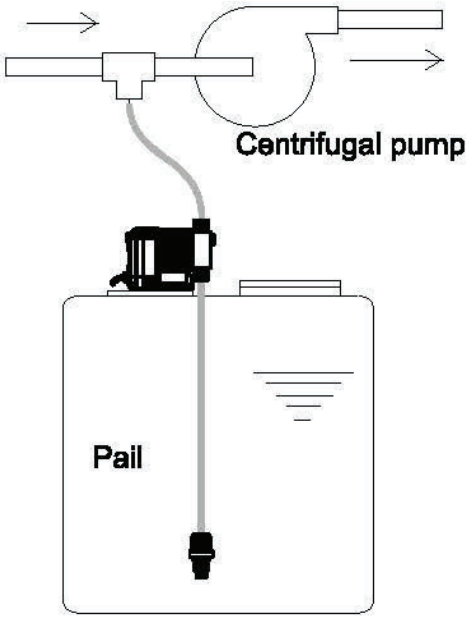
Lower than level

2. 1. 4 Other Installation(Syphon)



Open dosing and Height difference

2. 1. 5 Other Installation(Syphon)



Front of the centrifugal pump
or venturi dosing

⚠ NOTE 2. 1. 4 and 2. 1. 5 may be syphon, it need an anti-syphon valve

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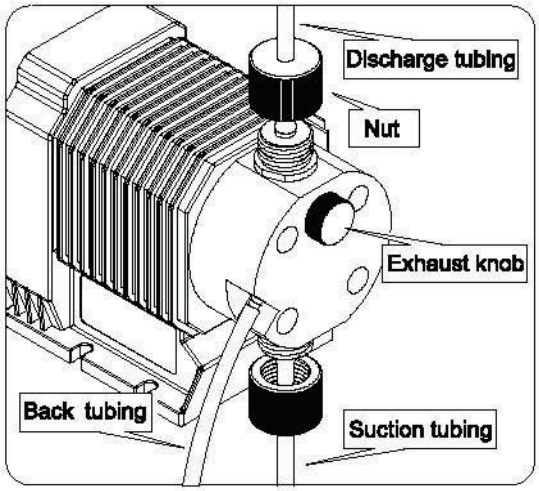
2. 2 Tubing installation

- One end of back tubing inserted into the head, the other end put into the Chemicals pail

⚠ **WARNING** Ensure the back tubing be tight, otherwise the chemicals can be splashed

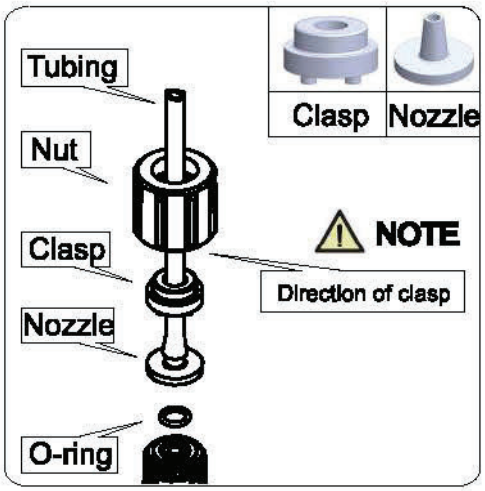
⚠ **WARNING** Prohibit to install the transparent tubing to the Discharge, it's easy to burst



2. 3 Connection installation

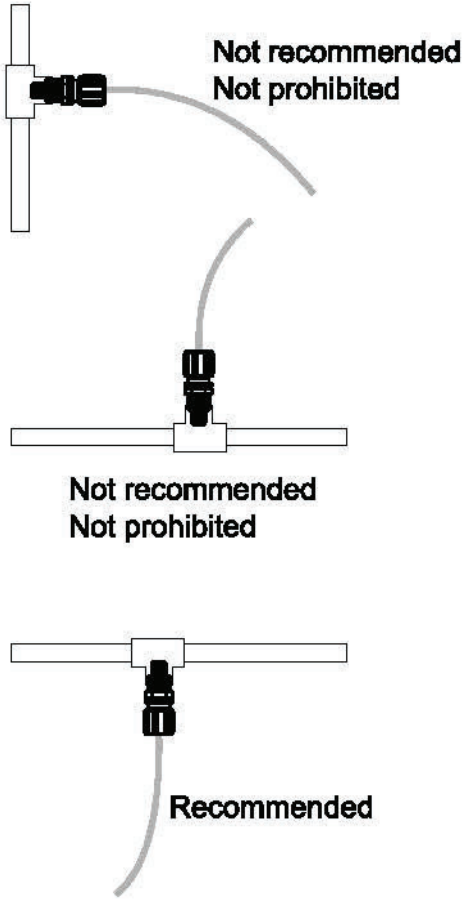
- Put the nut and clasp over the tubing
- Put the tubing into the nozzle hard

⚠ **WARNING**
Discharge tubing can not be folded



2. 4 Foot valve installation

2. 5 Injection valve installation



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3 Introduce

3.1 Summary

The dosing pump is controlled by a microprocessor, a fixed stroke length, variable stroke frequency, diaphragm driven by electromagnets, can be used to transport a variety of chemicals dosing.

3.2 Principle

The electromagnetic force to drive the diaphragm motion in the pump head, the pressure variations caused by suction valve and discharge valve automatically open and close realization of chemical dosing.
The pump in 0.48~15.20 L/h range, the maximum output pressure of 8.2~1.8 bar can adjust the flow according to the regulation of frequency.

3.3 Parameters

Repeated accuracy	-3%～+3%
Ambient temperature	5～42℃（indoor or outdoor in shade ）
Chemicals temperature	5～45℃(polypropylene head)
Chemicals viscosity	≤300mPa • s
Particle diameter	≤0. 15mm
Voltage	AC 220V 50/60Hz -10%～+15%
	AC 110V 50/60Hz -10%～+15%

Series	Power
F series	9W\12W
V series	12W\16W\24W\30W
C series	35W\40W\49W

Protection grade	IP55
Insulation grade	F
Explosion-proof grade	None

External pulse signal	Passive or Active pulse signal
	The pulse width≥100ms
External analog signal	0/4～20mA

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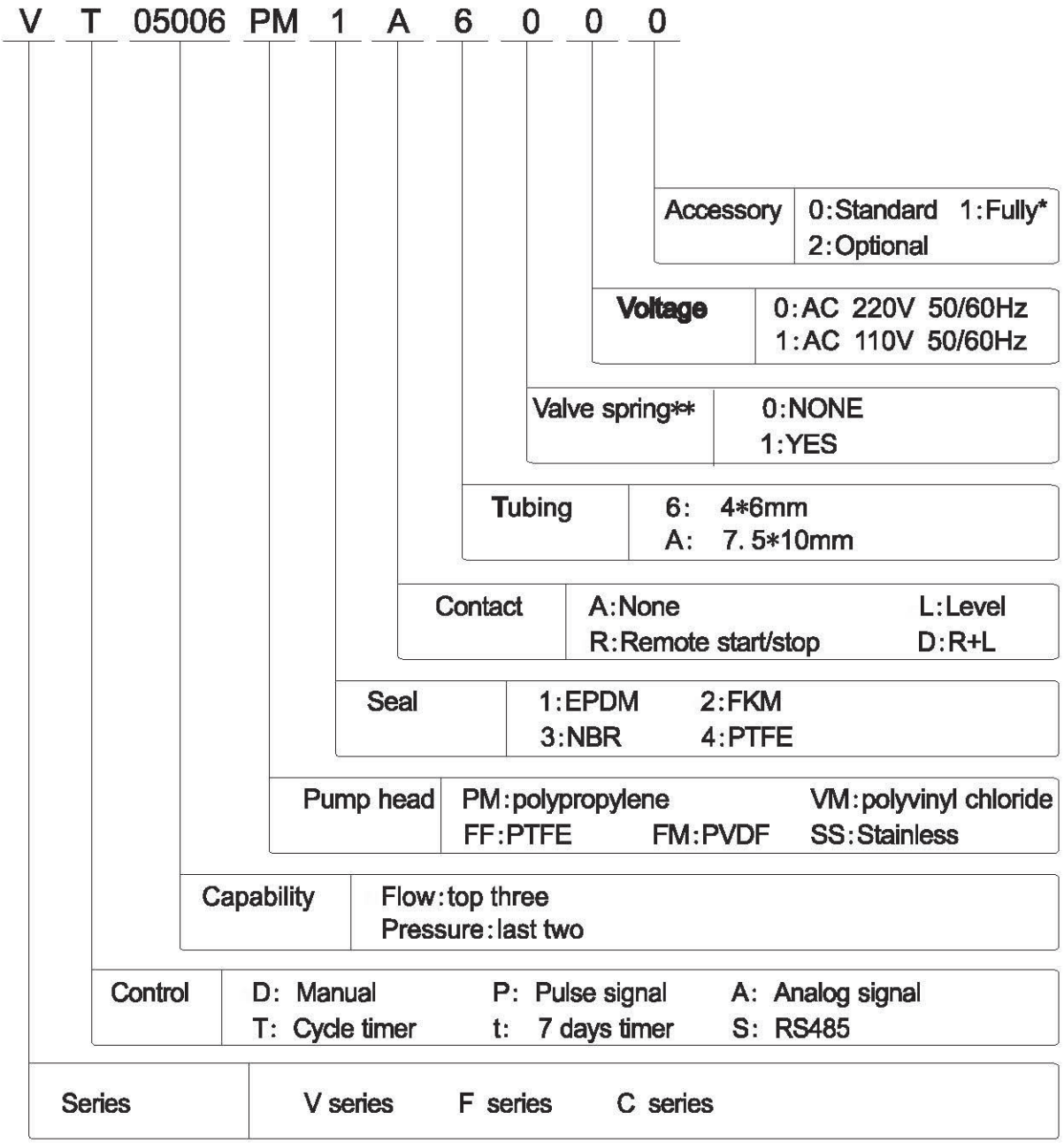
3.4 Explanation of Model



* Standard: 1 Injection valve, 1 foot valve, 3 Tubings
Fully: Standard+Anti-syphon valve

** Spring valve used for high viscosity chemicals

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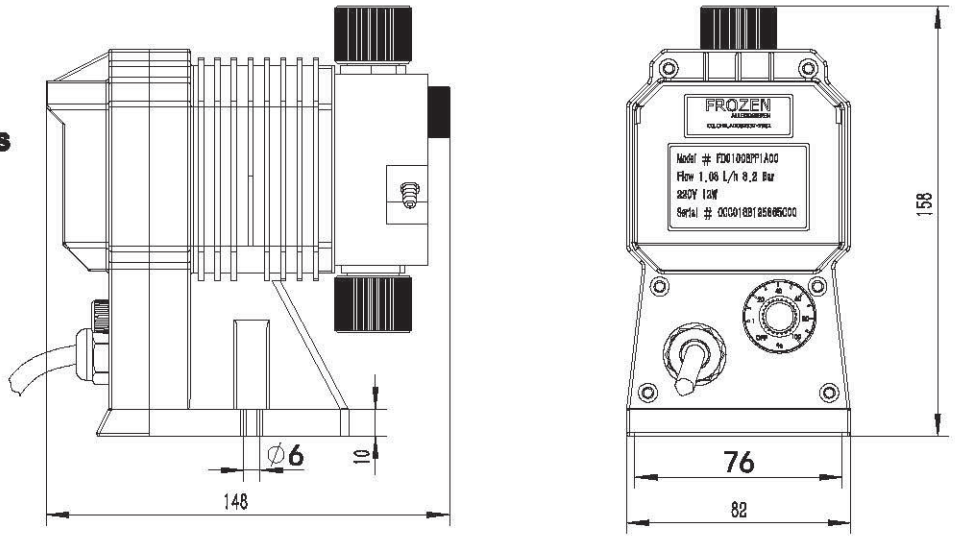
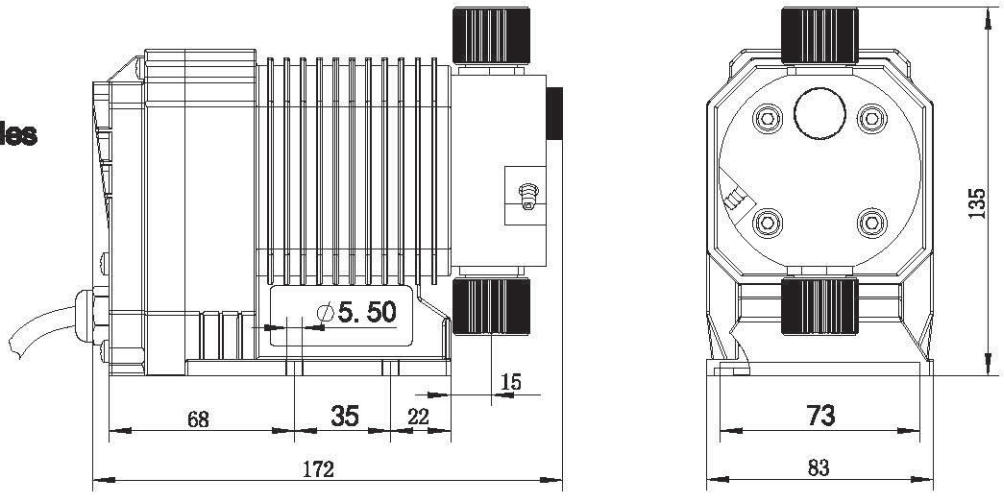
3.5 **Dimension**(The bold types means the size of base holes)

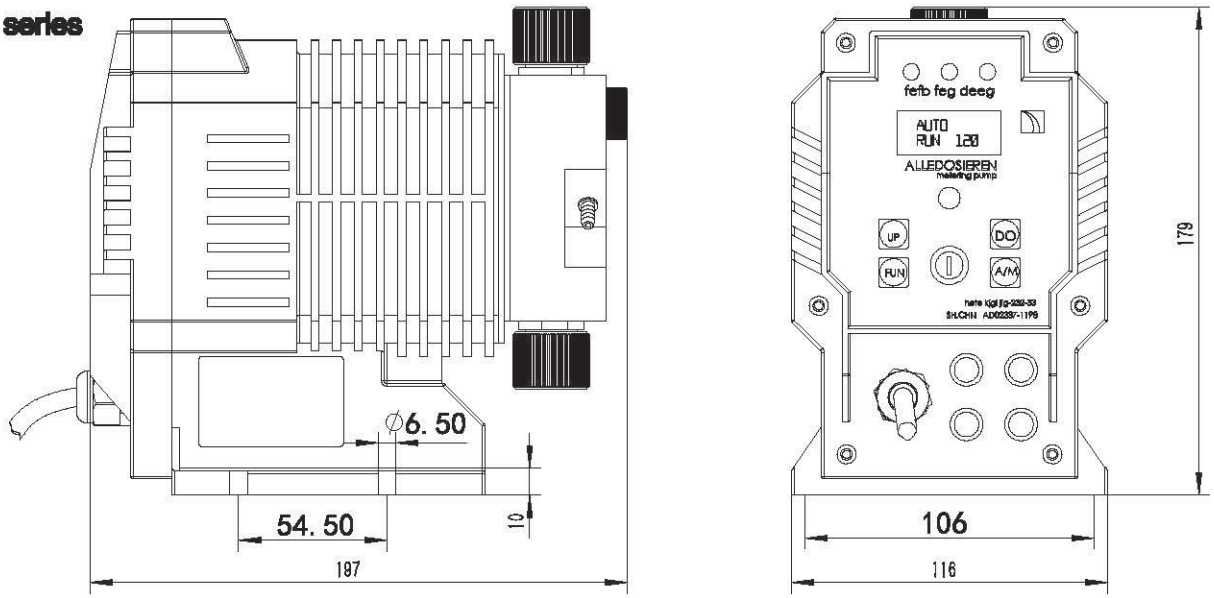
F series



V series



C series



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4 Capability

F series

Model	Flow L/h	Pressure Bar	Frequency N/min	Model	Flow L/h	Pressure Bar	Frequency N/min
01007	1.08	7.3	100	03005	3.12	5.1	100
02006	2.16	6.0	100	06004	6.00	3. 5	100

V series

Model	Flow L/h	Pressure Bar	Frequency N/min	Model	Flow L/h	Pressure Bar	Frequency N/min
00508	0. 48	8. 2	120	06005	6. 00	4. 8	160
01008	1. 08	8. 2	120	08004	8. 16	3. 8	160
02008	2. 16	8. 2	120	09003	9. 00	3. 5	160
03008	3. 12	7. 6	120	10004	10. 20	3. 2	160
04006	3. 60	6. 8	120	12003	12. 48	2. 8	180
05006	5. 04	6. 2	160	15002	15. 20	1. 8	180
				20001	20.00	1. 0	180

C series

Model	Flow L/h	Pressure Bar	Frequency N/min	Model	Flow L/h	Pressure Bar	Frequency N/min
01023	1.08	22.7	90	12007	12.48	6. 8	160
02018	2.16	17.3	120	16005	16.80	4.2	160
04015	4.20	14.1	120	20003	21.60	3. 5	160
06011	6.80	11.3	160	26003	26.50	2.5	160
09009	9.00	8.5	160	30002	31.20	1. 8	160

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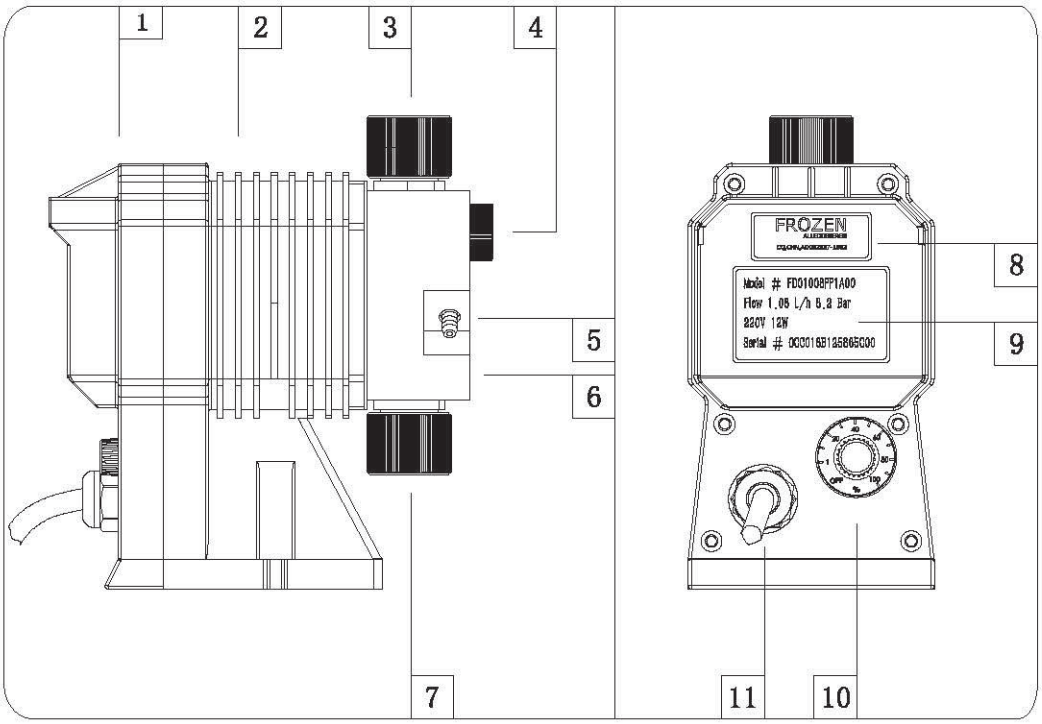
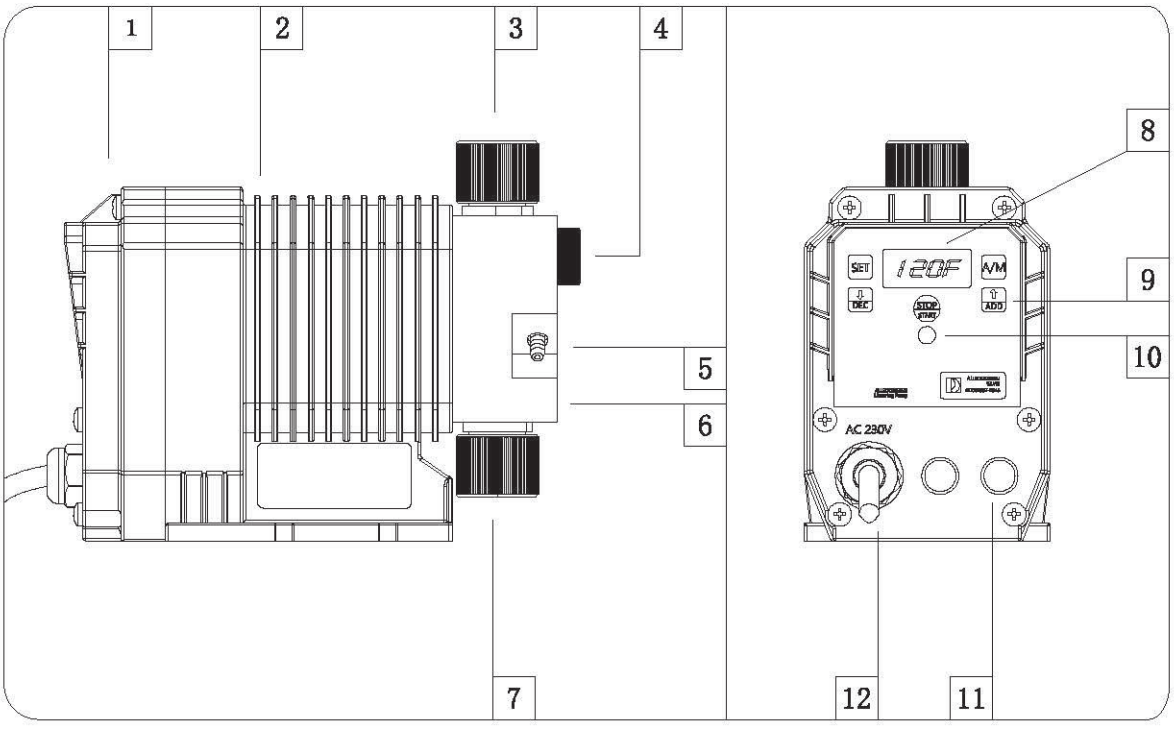
5 Components&Functions

5.1 F series



1、Front cover(black)
2、Back cover(green)
3、Discharge side
4、Exhaust knob
5、Back tubing jack
6、Head
7、Suction side
8、Nameplate
9、Model
10、Speed knob
11、AC 220V

5.2 V series



1、Front cover(black)
2、Back cover(green)
3、Discharge side
4、Exhaust knob
5、Back tubing jack
6、Head
7、Suction side
8、LCD dispaly
9、Keys
10、Runing indication
11、External control signal
12、AC 220V

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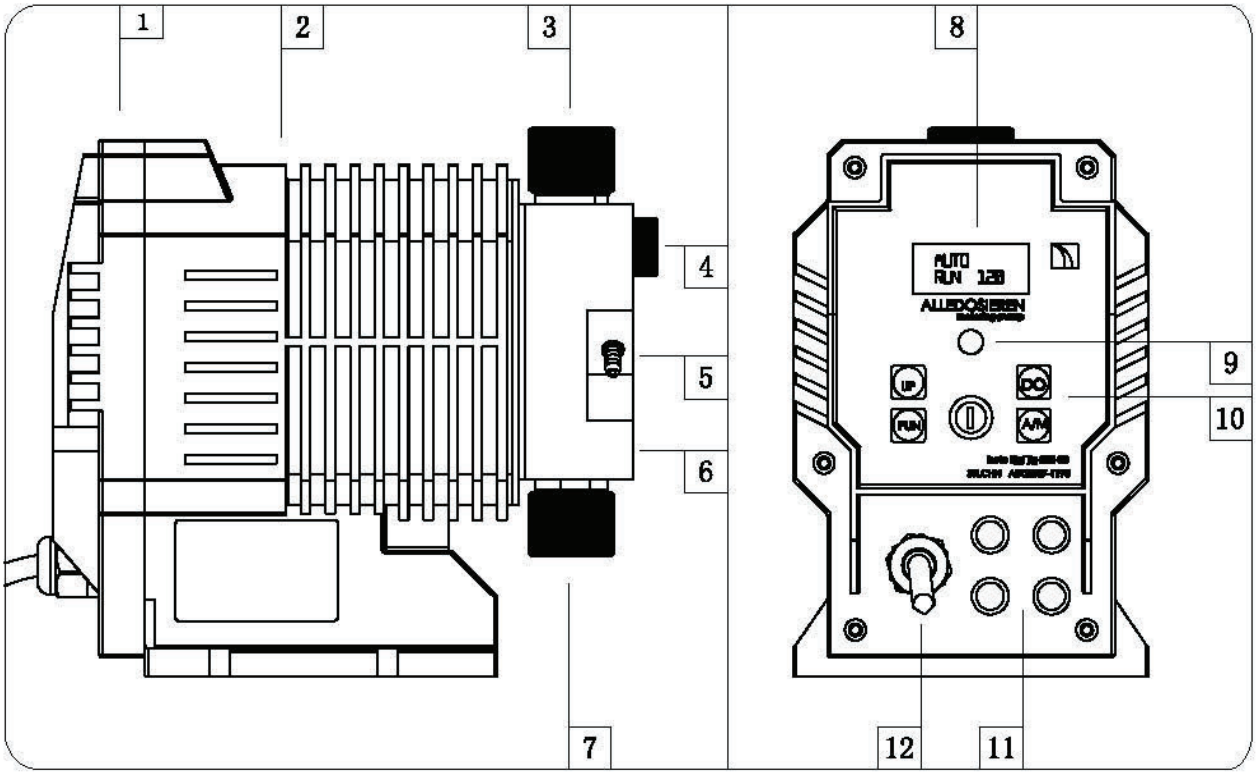
5.3 C series



1、Front cover(black)
2、Back cover(green)
3、Discharge side
4、Exhaust knob
5、Back tubing jack
6、Head
7、Suction side
8、LCD display
9、Runing indication
10、Keys
11、External Control signal
12、AC 220V

6 Flow adjusting and Key setting

6.1 Accessory function

- Anti-syphon valve: connecting tubing and dosing pipe, anti-syphon;
- Injection valve: connecting tubing and dosing pipe, check and a little anti-syphon ;
- Foot valve: filtration and check.

6.2 Power

- Please ensure the external voltage and the pump consistent
  In case of inductive load and dosing pump parallel access power supply
  The switch contacts need to use, for example, a relay or contactor.
- For the external control signal, Green is connected with the anode,
  yellow is the negative pole

6.3 Start the dosing pump

- Unscrew the exhaust knob about a circle
- Start the pump, until you can see the chemicals appears at the back tubing
- Tightened the exhaust knob

⚠ **NOTE** If the pump head have no exhaust knob,
you can unscrew the nut on the discharge valve to exhaust

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6.4 Key setting

6.4.1 F series

- Adjusting the frequency by the knob
- Rotating the knob counterclockwise, until hear "click" , the dosing pump will stop

6.4.2 V series

6.4.2.1 VT type(manual)

- XXXF(XXX is frequency, for example 120F unit: N/min)
- Press STOP/START stop or start pump, stop display OFF start display XXXF
- Press ADD or DEC adjusting the frequency
- The frequency of LED flickering is same as the frequency of pump

Circle timer setting (unit: minute)

- Press A/M to switching control mode, XXXF means manual, XXXF. means circle time
- XXXF. Press SET the first time, display 1:255 this 255 is running time
- Press ADD or DEC adjust the 255
- Press SET the second time, display 2:255 this 255 is stop time
- Press ADD or DEC adjust the 255
- Press SET third time, display 3: F ,Press ADD or DEC adjust F or P
  the F means frequency model,P means percentage model
- Press SET fourth time,save settings.

For example, setting as 1. 5 2. 49 3: P

it means running circled 5 minutes, stop 49 minutes by percentage model.

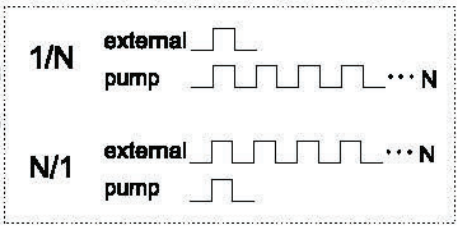
⚠ NOTE This function of VT type is controlled by the timer in MCU of pump, the accuracy is a little poor about 15 seconds per hour, the C series Ct type can provide high accuracy cause it is controlled by off-chip clock MCU.

6.4.2.2 VP type(Pulse signal)

The setting of manual is the same as VT type.

Setting of auto:

- Press A/M to switching control mode, XXXF means manual, XXXP means auto
- Press ADD or DEC adjust the frequency
- XXXP Press SET the first time, display 1. 1 or 1. 0
  1. 0 means 1/N, 1. 1 means N/1)
  1/N means one external signal, pump run N times
  N/1 means N external signal, pump run one times



- Press ADD or DEC to switching 1/N or N/1
- Press SET the second time,display 2. 1 (it means the N)
- Press ADD or DEC adjust it
- Press SET third time, save settings, display XXXP
- Press STOP/START stop or start pump

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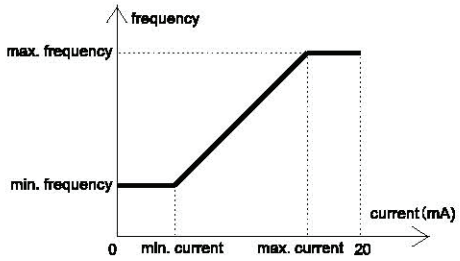
6.4.2.3 VA type(analog signal)

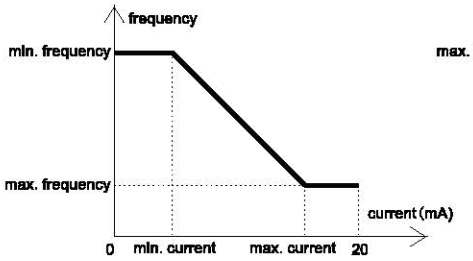
The setting of manual is the same as VT type.

Setting of auto:

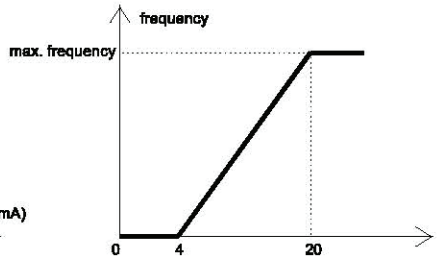
- Press A/M to switching control mode, XXXF means manual, XXXA means auto
- XXXA Press SET the first time, display 1. 4.0 it means min. current
- Press ADD or DEC adjust it
- Press SET the second time, display 2. 20.0 it means max. current
- Press ADD or DEC adjust it
- Press SET the third time, display 3. 0 it means min. frequency
- Press ADD or DEC adjust it
- Press SET the fourth time, display 4. XXX it means max. frequency
- Press ADD or DEC adjust it
- Press SET the fifth time, save settings, display XXXA
- Press STOP stop or start pump



Direct proportion



Inverse proportion



Original settings

6.4.3 C series CT type(circle timer)

Setting of manual

- Press STOP stop or start pump, display Stop or Run
- Press ADD or DEC adjust the frequency

Setting of circle timer

- Press A/M to switching control mode, Manu or Auto
- Press SET the first time, display >XXX it means running time
- Press ADD or DEC adjust it
- Press SET the second time, display <XXX it means stop time
- Press ADD or DEC adjust it
- Press SET third time, save settings

Manu	M/m
Run	160

Auto	
Run	160

Auto	>XXX
Run	160

Auto	<XXX
Run	160

Ct type、CA type、CP type and CS type please Refer to the appendix

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6. 5 Flow regulating and calibration

6. 5. 1 V series、C series

Flow regulating is achieved by adjusting the frequency
The formula like this:

$$\text{Setting frequency} = \text{max. frequency} * \frac{\text{needed flow}}{\text{max. flow}}$$

"max. frequency"and"max. flow" can be found in the capability table
For example 03008:
the max. flow is 3. 12L/h@7. 6Bar
the max. frequency is 120N/min
if the needed flow is 2. 00L/h, so:

$$\text{Setting frequency} = 120 * \frac{2.00}{3.12}$$ The setting frequency is 76. 9

Press  or  adjust the frequency to 77

6. 5. 2 F series

Flow regulating is achieved by adjusting the knob
The formula like this:

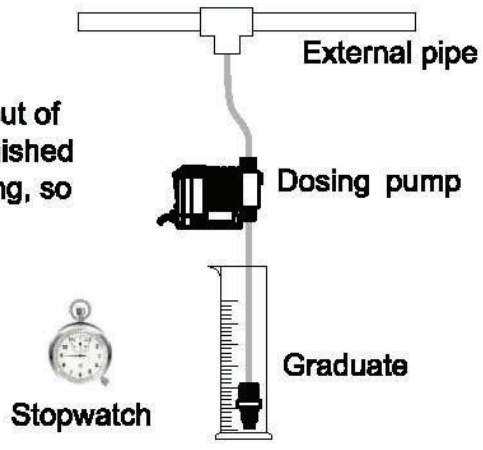
needed flow=max. flow * percentage of index plate

6. 5. 3 Max. flow calibration

If the pressure of dosing pipe is different with the pump max.pressure, the "max. flow" in 6. 5. 1 would changed, calibration like this:

- Correct installation until normal dosing
- Adjust the frequency to max, and measure the flow by stopwatch
- This flow is real "max. flow"

⚠ NOTE You need take the foot valve out of the graduate when calibration finished Then the air maybe into the tubing, so it is necessary to exhaust again.



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7 Repairs

⚠ NOTE The size of the fonts has nothing to do with importance

	Fault phenomenon	Fault cause and solution
Start-up	Can not start	Check the power or press STOP
	Completely unable to suction	The suction assembly is leak hard
	Suction just a little chemicals	The suction assembly is leak lightly
		Unscrew the exhaust knob about a circle
		Perfusion a little water into the discharge valve
		The vertical distance between pump and chemicals pail is too far
First running	Discharge valve leak	Check the connection of discharge valve
	Flow too small	Bubbles appear in discharge tubing cause suction assembly is leak lightly
		The pressure of dosing pipe is too high or the discharge tubing is too long
		Incorrectly install the suction tubing on the side of discharge
		The density or viscosity of chemicals is too high
	Flow is too large	The frequency is too high
		Install Installation like the 2.1.4 or 2.1.5,the chemicals still flow when the pump is stoped, it need an anti-syphon valve
Long running	Discharge valve leak	Check whether the discharge assembly is broken
	Completely unable to suction	Check whether the suction assembly is broken
		The blocking is caused by chemicals crystalline or solidification when pump stop
	Flow too small	The complete blocking is caused by chemicals impurities
		The lightly blocking is caused by chemicals crystalline or solidification when pump running
		The low power is caused by motor aging
	Flow is too large	The spring in injection valve is corroded, the anti-syphon is invalid
		The diaphragm in anti-syphon valve is broken,the anti-syphon is invalid
Fault	Noise	Poor lubrication of motor
	LED flickering but pump no running	The motor is broken
	Dislpay but LED no flickering	Circuit board is broken
	No display and LED no flickering	Circuit board is broken
Electrical parameters	Fuse	3T 2A/250V
	Power -line terminal	≈1KΩ （Power cut-out）
	Motor	272～285Ω (Power cut-out)

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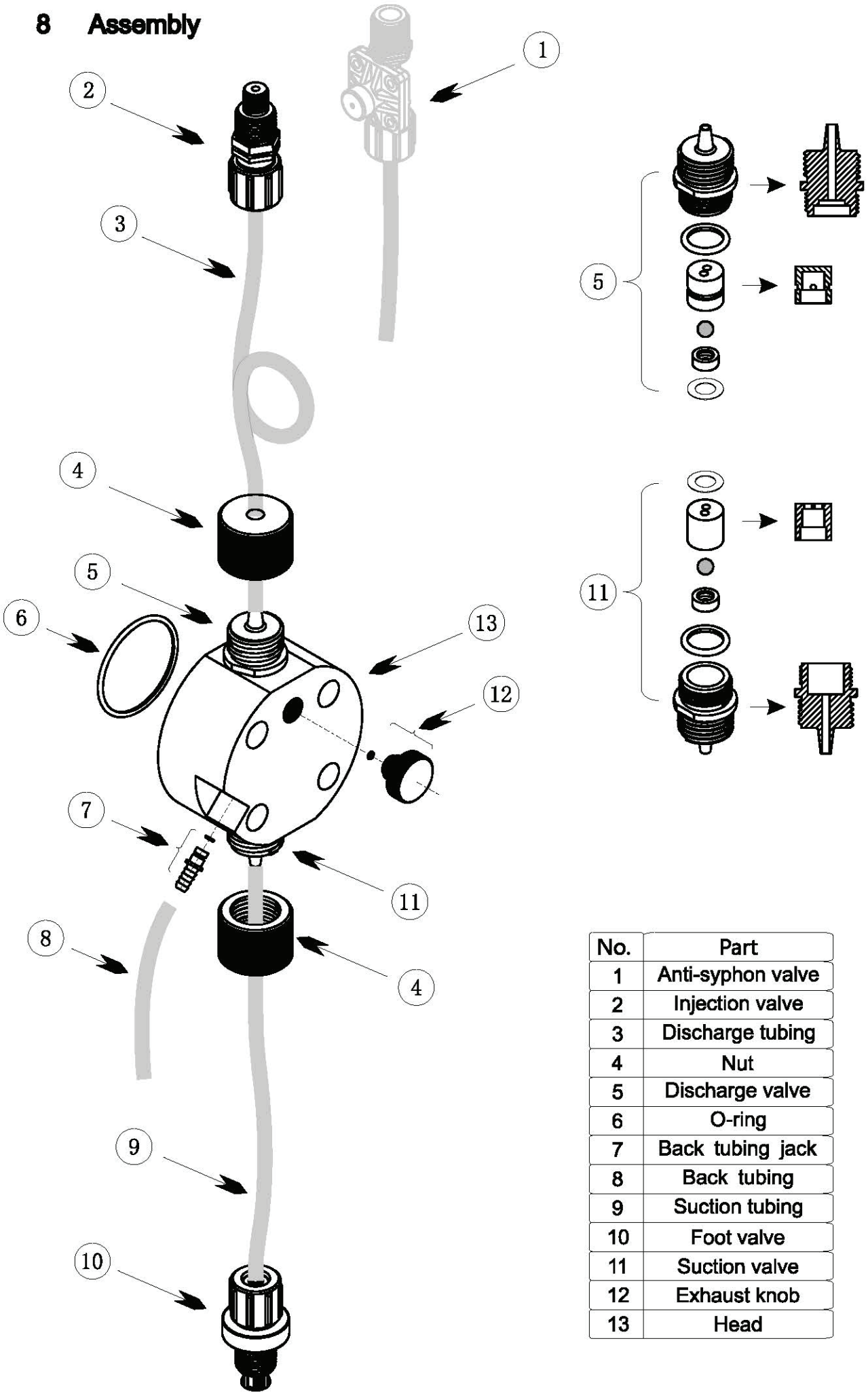
8 Assembly



No.	Part
1	Anti-syphon valve
2	Injection valve
3	Discharge tubing
4	Nut
5	Discharge valve
6	O-ring
7	Back tubing jack
8	Back tubing
9	Suction tubing
10	Foot valve
11	Suction valve
12	Exhaust knob
13	Head

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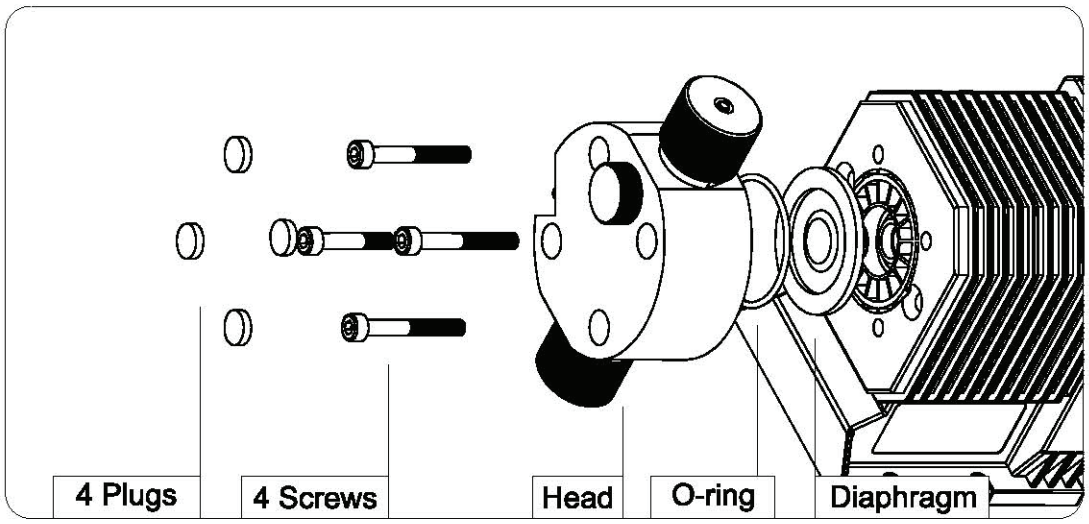
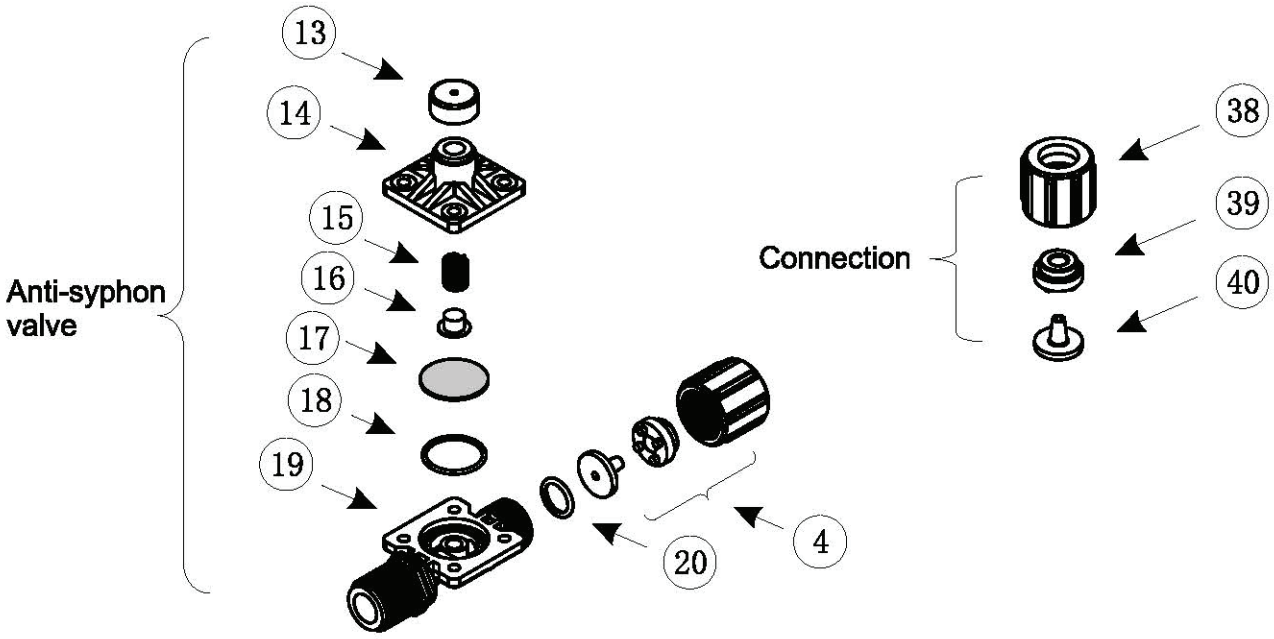
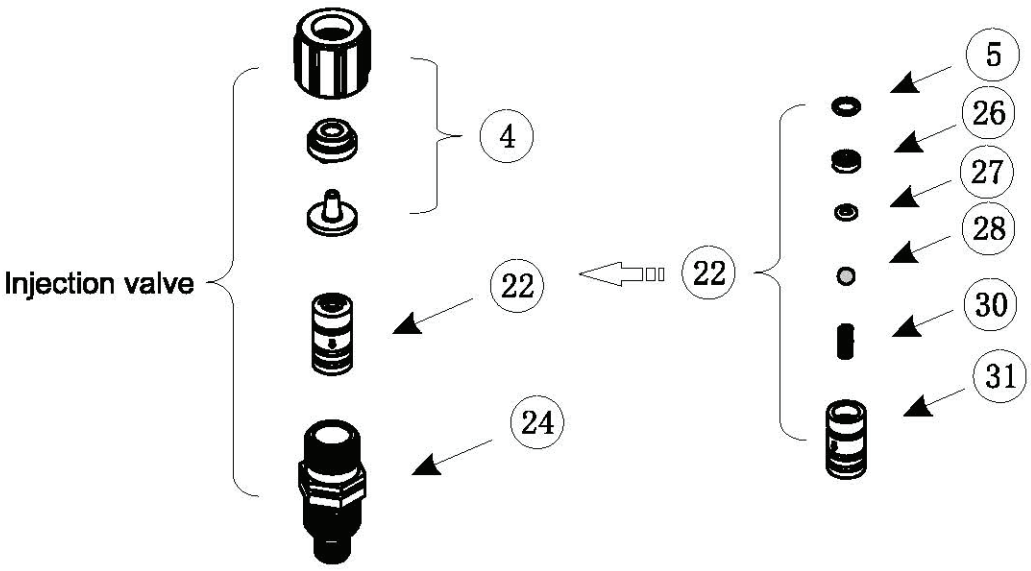
Remove the Head







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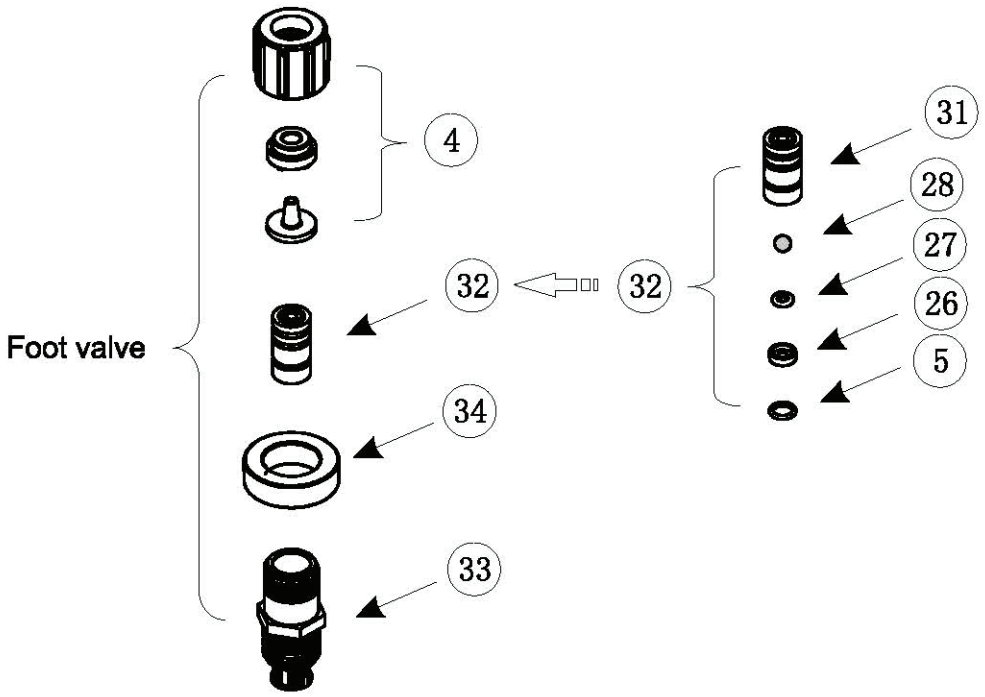


9 Appendix

C series CA type (Analog signal)

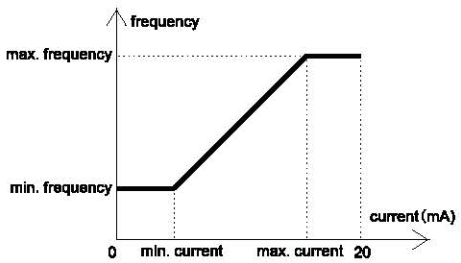
Setting of manual

- Press stop or start pump, display Stop or Run
- Press or adjust the frequency

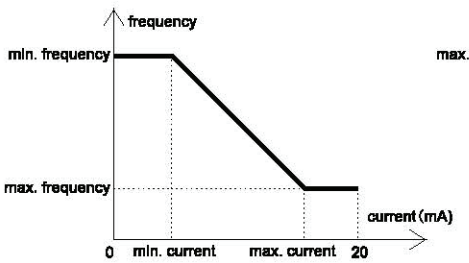
Setting of auto:

- Press to switching control mode, Manu or Auto
- Auto Press the first time, display 1: 4.0 it means min. current
- Press or adjust it
- Press the second time, display 2: 20.0 it means max. current
- Press or adjust it
- Press the third time, display 3: 0 it means min. frequency
- Press or adjust it
- Press the fourth time, display 4: 160 it means max. frequency
- Press or adjust it
- Press the fifth time, save settings, display Auto
- Press stop or start pump

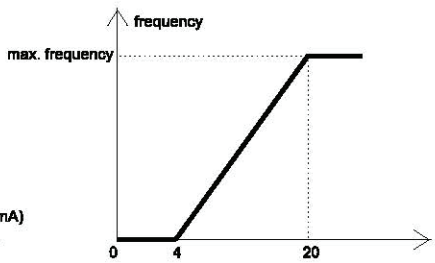
Auto	
Run	0
Manu	
Run	160
Manu	
Stop	160
1:	4.0
Run	0
2:	20.0
Run	0
3:	0
Run	0
4:	160
Run	0
Auto	
Run	0



Direct proportion



Inverse proportion



Original settings

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