



PROGRAMMABLE INTELLIGENT DISPENSING SYSTEM



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OFFICIAL WEBSITE

Logic working mode(PDS I) Independent working mode(PDS II)

Independent and steps filling working mode(PDS III) Comprehensive working mode(PDS IV)

INNOFLUID CO.,LTD.

INNOFLUID PERISTALTIC PUMP

LIQUID FILLING MACHINE



Tabletop Bottle Handling, Filling and Capping Machine

Flow Rate : According to customers request
Filling Accuracy: $\pm 0.5\sim 1\%$
Filling Range: 0.5-100mL
Bottle Diameter: 16-60mm
Outputs : 900~1680 bottles /hour



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Filling Machine for Silin Bottles

Production capacity : 2500-3000 bottles/hour
Applicable bottle: 2ml-100ml cilin bottle
Upper stopper: Full or half stopper (adjustable)
Measurement accuracy:0-2%
Plugging ratio:>99%
Power supply:380V 50Hz three-phase four-wire system
Power:2Kw
Outward Size: 2200mmx850mmx1650mm



Straight Line Filling Machine

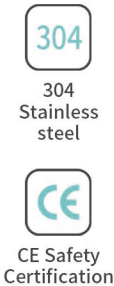
Production capacity : 2500-3600 bottles/hour
Applicable Specification: 50ml-500ml bottles
Number of filling channels: 4-8
Loading accuracy:0-2%
Lock form: Pressing cap,screwing cap, common rolling cap,rolling anti-theft cap, etc.
Power: 1.5Kw
Power supply: 380V 50Hz three-phase four-wire system
Shape size:2700mmx850mmx1650mm

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Programmable Dispensing System

PDS



- One controller can control maximum 8 pump units.
- Each pump unit with same or different pump head.
- The PDS series controller and pump unit, can be integrated type or split type.
- Four working modes
 - Logic working mode: PDSI
 - Independent working mode: PDSII
 - Independent working mode and steps filling mode: PDSIII
 - Comprehensive working mode: PDSIV

Model Number

- PDS I ● PDSII ● PDSIII ● PDSIV

Suitable Pump Head



EasyPump Series



AMC Series



HandyPump Series



KT15



KD15/KD25



MiniPump



MicroPump



DZ25-6L



YZ35-II

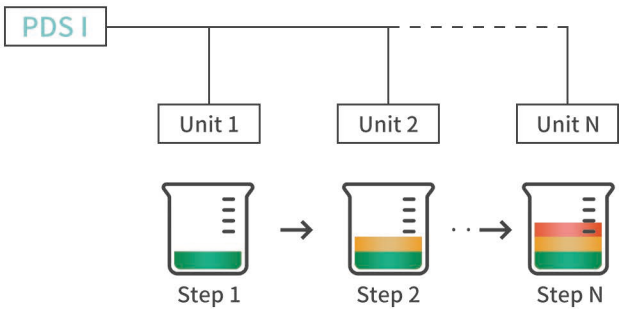


DY Series

Technical Specifications

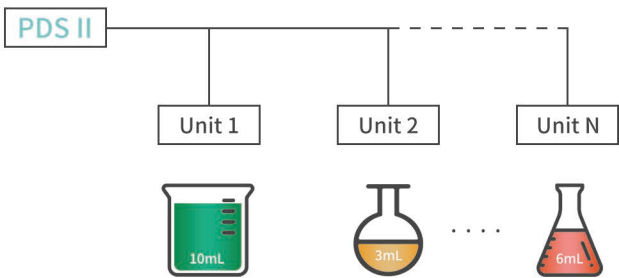
Technical Specifications			
Speed range	0.1~600rpm, also depend on pump head	Power supply	AC 220V±10%, AC 110V±10%
Speed resolution	0.01rpm	Power consumption	15W
Back suction angle	0-360°	Controller dimension	240*221*111mm
Display	7 inch- industrial grade- true color LCD TFT screen	Controller weight	2.1kg
		Memory function	Storage the running parameters when power off
Control	Touch screen	Pump housing material	Stainless steel
Start/stop, direction signal	Active switch signal 5V		

Four working modes



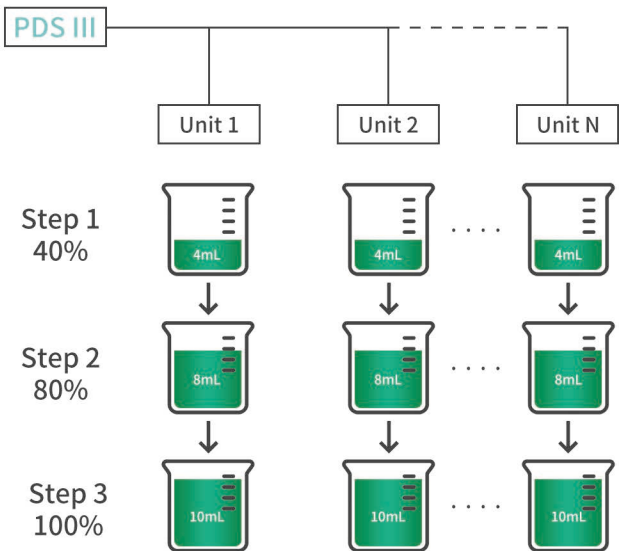
Logic working mode

In logic working mode, each unit working cooperatively. Filling or transferring with orders, also with different proportion adding, finish automation mixing work. Maximum steps: 50 steps Common mode: Can save maximum 5 groups data Working time: 0.1sec ~9999hour Pause time: 0.1sec ~9999 hour Steps trigger way: Time trigger or external trigger Calibration: Can calibrate each step separately, online microadjusting function.



Independent working mode

In independent working mode, each unit working independently, can fill different volume. Working mode: transferring or dispensing Common mode: In dispensing mode can save 5 groups data Calibration: Each pump unit can calibrate separately, online micro adjusting function. Dispensing time: 0.1-9999sec Pause time: 0.1-9999sec Repeat number: 1-9999 times, set "0" for unlimited times Communication: RS232/RS485, Modbus protocol (RTU mode)



Independent and steps filling working mode

In independent working mode, each unit can finish filling process with multiple different filling volume. This function is suitable for preventing fluid splashing and foaming. This process can also repeat many times, achieving complicated dispensing function. Working mode: Transferring and dispensing mode Transferring total volume: Can record the total liquid volume transferred by each unit in transfer mode Dispensing step: It can be dispensed in three steps, and different parameters can be set for each step. Calibration: Can calibrate each step separately, online microadjusting function. Common mode: In dispensing mode can save 5 groups data Dispensing time: 0.1-9999.99sec Pause time: 0.1-9999.99 sec Repeat number: 1-9999 times, set 0 for unlimited times Communication: RS232/RS485, Modbus protocol (RTU mode)

PDS IV Comprehensive working mode

Working mode: Include logic working mode, independent working mode, independent and steps filling mode

Desktop Filling System

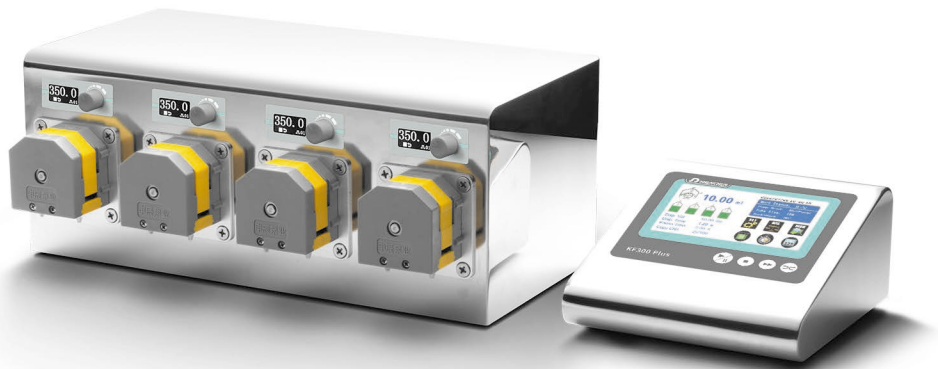
KF300 Plus/4KFUM3 Plus/MiniPump

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KF300 Plus/4KFUH3 Plus/HandyPump

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KF300 Plus/4KFUK3 Plus/KT15

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- Integrated design, a controller can control 1-32 units.
- Compact structure, compact size, beautiful appearance and saving space.
- Suitable for high precision micro liquids filling in laboratory.
- The filling unit can independently adjust the flow rate, facilitating online fine adjustment of liquid volume during the filling process.

Technical Specifications

Technical Specifications			
Speed range	KF300 Plus/4KFUM3 Plus/Minipump:0.1-300 rpm	Keypad lifetime	300,000 times
	KF300 Plus/4KFUH3 Plus/Handypump:0.1-300 rpm	Control mode	Touch screen and Mechanical keypad
	KF300 Plus/4KFUK3 Plus/KT15:0.1-350 rpm	Start/stop, direction signal	Passive switch signal, such as foot pedal switch; Active switch signal, 5-24V universal
Filling volume	0.01-9999.99 ml	Output interface	Output motor working status (Open-collector output)
Dispensing time	0.1-9999.99 s		
Interval time	0.1-9999.99 s		
Volume resolution	0.01 ml	Communication interface	RS485 support Modbus protocol (RTU mode)
Time resolution	0.01 s		
Copy numbers	1-9999 times, 0 represent unlimited		
Back suction angle	0-3600°	Power supply	AC 100V-240V(50Hz/60Hz)
Filling accuracy	<±0.5%		
Filling units	1-32 units		
Display	4.3"Industrial grade –color LCD display	Condition Temperature	0-40℃
		Relative humidity	<80%

KF300 Filling Volume Reference Parameter(Media is water)

Experimental conditions:standard atmospheric pressure, room temperature at 20℃,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.

KF300 Filling Volume Reference Parameter(Media is water)								
Drive	Pump Head	Tubing	mL/r	Filling Volume (mL)	Filling Time(s)	Filling Accuracy (±%)	Output(pcs/min)	Motor Speed(rpm)
KF300 Plus	MiniPump	13#	0.027	0.06	0.8	3	33	166.67
		13#	0.027	0.1	1	2	30	222.22
		13#	0.027	0.2	2	0.8	20	222.22
		14#	0.114	0.8	1.5	0.8	24	280.70
		14#	0.114	1	2	0.5	20	263.16
		19#	0.248	2	2	0.5	20	241.94
		16#	0.377	3	2	0.5	20	238.73
	KT15	14#	0.156	1	1.5	1	24	256.41
		14#	0.156	2	3	0.5	15	256.41
		19#	0.286	3	2	0.8	20	314.69
		16#	0.477	5	2	0.8	20	314.47
		25#	0.933	7	2	1	20	225.08
	HandyPump (6 rollers)	13#	0.031	0.05	0.4	3	43	241.94
		13#	0.031	0.1	0.8	2	33	241.94
		13#	0.031	0.2	1.5	1	24	258.06
		13#	0.031	0.5	3	0.5	15	322.58
		14#	0.126	1	1.5	0.8	24	317.46
		19#	0.215	2	2.5	0.5	17	223.26
		16#	0.345	3	2	0.5	20	260.87
	HandyPump (3 rollers)	13#	0.033	0.2	1.5	1	24	242.42
		14#	0.187	1.5	2	0.8	20	240.64
		19#	0.371	3	2	0.5	20	242.59
		16#	0.636	5	2	0.8	20	235.85
		25#	1.219	10	2	0.5	20	246.10

Integrated Filling System

DF600 Plus II

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DF600 Plus III

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DF600 PlusIV

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DF350 Plus

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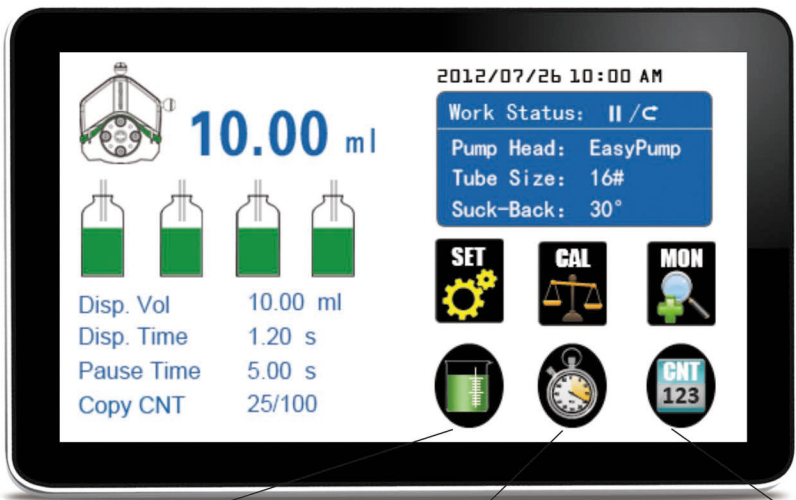


Model Number

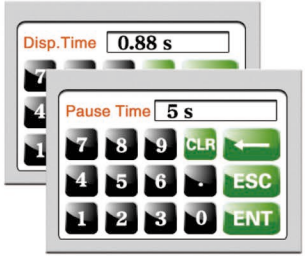
- DF600 Plus
- DF600 Plus II
- DF600 Plus III
- DF600 Plus IV
- DF350 Plus
- DF350 Plus IV

- This system use imported 4.3" industrial grade true color display with touch screen control.
- Dynamics display working status, filling data, setting parameter, system configuration display at the same screen.
- With motor working status output signal, can let other equipment realtime monitor the current filling status of peristaltic pump.
- Integrated design, one controller can control 8 groups (total 32) filling units.
- It can support the production filling line, store 30 commonly used filling modes.
- Each filling unit can independently receive stop filling signal when bottle absent.

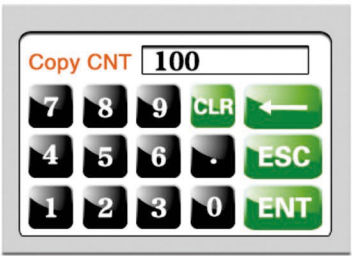
Control Interface



Dispensing volume interface

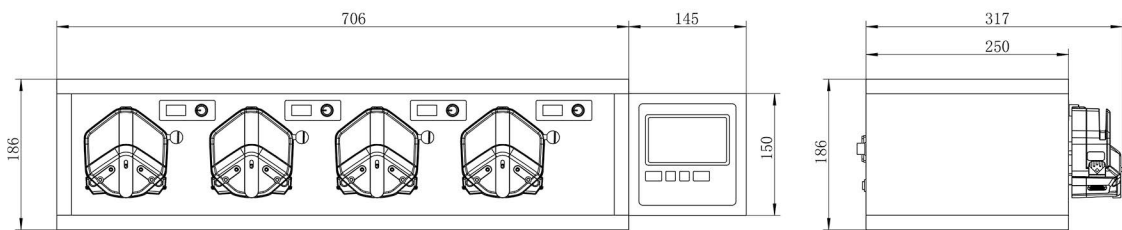


Dispensing time and
pause time interface

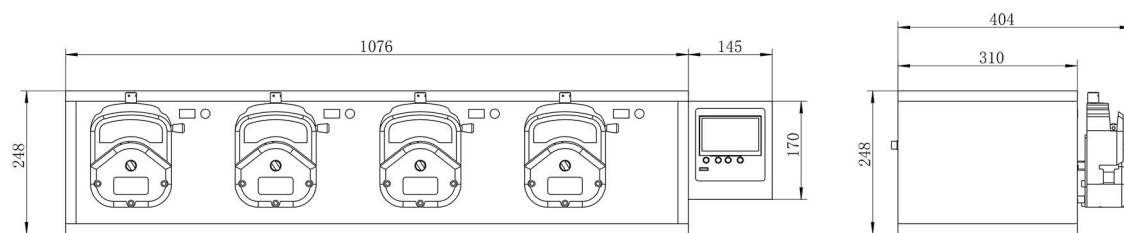


Copy numbers interface

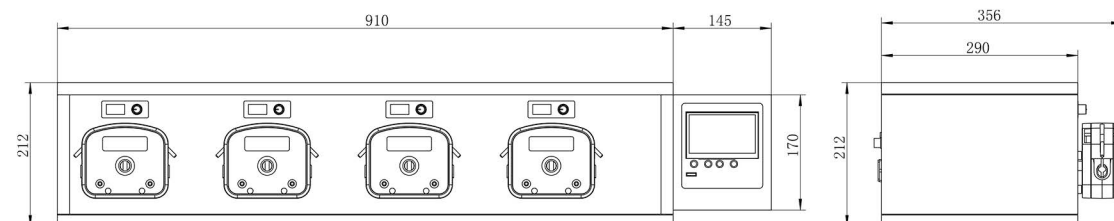
Dimension Drawing(Unit: mm)



DF600 PlusII Dimension



DF600 PlusIV Dimension



DF350 Plus Dimension

Product Composition and Flow Rate Range

Drive	Pump Head	Flow Rate (mL/min)	Motor Type	Drive Dimension (L×W×H)	Power Consumption	Drive Weight
DF600 Plus	KD15	0.0079-3027.97	Stepper motor	706×250×186mm	Each Unit<50W	21.8kg
	KD25	0.1979-2346.95		706×250×186mm	Each Unit<80W	21.8kg
DF600 Plus II	EasyPump	0.0053-3100	Closed-loop stepper motor	706×250×186mm	Each Unit<80W	21.8kg
	DZ25-3L	0.211-3600		706×250×186mm	Each Unit<80W	21.8kg
DF600 Plus III	DZ25-6L	0.3-6000		910×290×212mm	Each Unit<180W	41.45kg
DF350 Plus	DY15	0.01-3337		910×290×212mm	Each Unit<180W	41.45kg
	DY25	0.42-4340		910×290×212mm	Each Unit<180W	41.45kg
DF600 Plus IV	YZ35	0.69-12000		1076×310×248mm	Each Unit<300W	58.6kg
	YZ35-II	0.69-12000		1076×310×248mm	Each Unit<300W	58.6kg
DF350 Plus IV	DY35	8278 2.40-14147		1076×310×248mm	Each Unit<300W	58.6kg

Split Type Filling System

CF600 Plus II

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- Split design, adding or deleting filling units freely.
- One controller can control 1-32 filling units.
- Each filling unit can receive stop filling signal when bottle absent.
- Controller screen display the working status of the filling units.

Model Number

- CF600 Plus
- CF600 Plus II
- CF600 Plus III
- CF600 Plus IV

CF350 Plus

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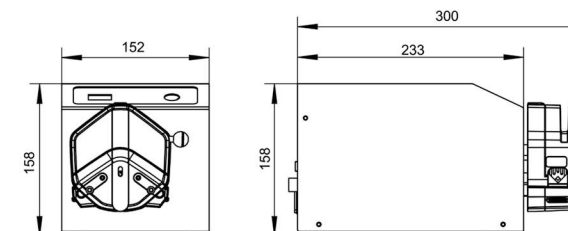


- Closed-loop stepper motor drive, precision control.
- Split type design, space-saving, easy installation.
- Use low pulsation pump head to reduce the pulsation of the fluid effectively.
- Suitable for micro volume high precision filling.

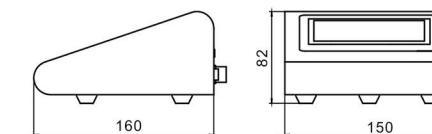
Model Number

- CF350 Plus
- CF350 Plus IV

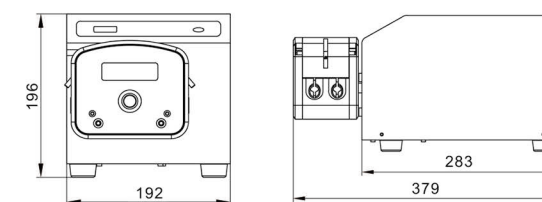
Dimension Drawing(Unit: mm)



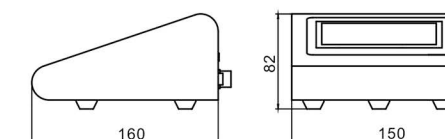
CF600 PlusII Driver size diagram



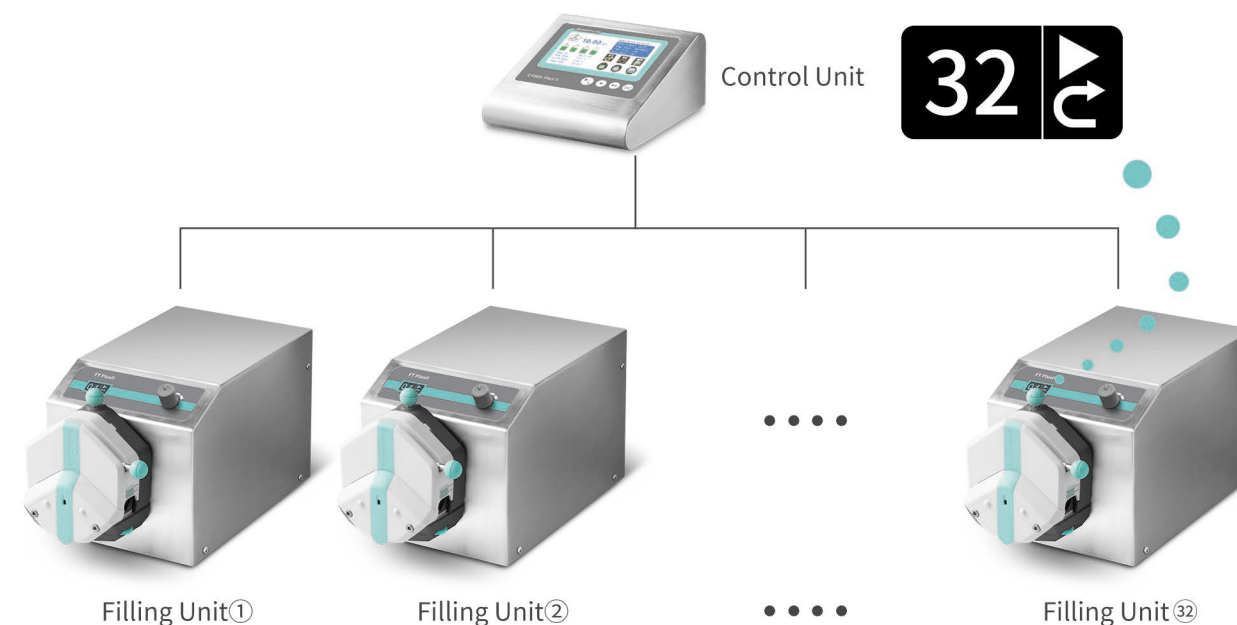
CF600 PlusII Controller Dimensional Drawing



CF350 Plus Driver size diagram



CF350 Plus Controller Dimensional Drawing



Product Composition and Flow Rate Range

Drive	Pump Head	Flow Rate (mL/min)	Motor Type	Drive Dimension (L×W×H)	Power Consumption	Drive Weight
CF600 Plus	KD15	0.0079-3027.97	Stepper motor	233×152×158mm	Each Unit<50W	4.2kg
	KD25	0.1979-2346.95				
CF600 PlusII	EasyPump	0.0053-3100	Closed-loop stepper motor	233×152×158mm	Each Unit<80W	4.95kg
	DZ25-3L	0.211-3600				
CF600 PlusIII	DZ25-6L	0.3-6000		283×192×196mm	Each Unit<180W	7.8kg
CF350 Plus	DY15	0.01-3337		283×192×196mm	Each Unit<180W	7.8kg
	DY25	0.42-4340				
CF600 PlusIV	YZ35	0.69-12000		310×228×248mm	Each Unit<300W	11.9kg
	YZ35-II					
CF350 PlusIV	DY35	2.40-14147		310×228×248mm	Each Unit<300W	11.9kg

Technical Specifications

Technical Specifications			
Speed range	CF350 Plus/DF350 Plus/CF350 PlusIV/DF350 PlusIV 0.1-350rpm		
	CF600 Plus/DF600 Plus/CF600 PlusII/DF600 PlusII/CF600 PlusIII/DF600 PlusIII/CF600 PlusIV/DF600 PlusIV 0.1-600rpm		
Filling volume range	0.1-9999.99 mL	Keypad lifetime	300,000 times
Filling time range	0.1-9999.99 s	Start/stop, direction signal	Passive switch signal, such as foot pedal switch;Active switch signal: 5-24V universal
Pause time range	0.5-9999.99 s		
Filling volume resolution	0.01 mL	Communication interface	RS485 communication Modbus protocol(RTU mode)
Time resolution	0.01 s		
Copy numbers	1-9999,'0' means unlimited	Output interface	Output motor working status (Open-Collector output)
Back suction angle	0-3600°	Power supply	AC 220V±10% 50Hz/60Hz (standard) AC 110V±10% 50Hz/60Hz (optional)
Filling accuracy	<±0.5%		
Display	4.3" industrial grade true color LCD screen	Condition temperature	0-40℃
Control method	Touch screen and mechanical keypad	Relative humidity	< 80%

Filling Volume Reference Parameter(Media is water)

Experimental conditions:standard atmospheric pressure, room temperature at 20℃,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.

Drive	Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (± %)	Output (pcs/min)	Motor Speed (rpm)
CF600 Plus II DF600 Plus II	EasyPump	13 [#]	0.4	1.2	0.8	27	377.36
		13 [#]	1	2.5	0.5	17	452.83
		14 [#]	2	1	0.5	30	444.44
		19 [#]	5	1.2	0.5	27	454.55
		16 [#]	7	1	0.5	30	450.16
		25 [#]	10	0.8	0.8	33	381.29
		25 [#]	15	1	0.5	30	457.55
		25 [#]	20	1.5	0.5	24	406.71
		17 [#]	30	1.2	0.5	27	450.05
		18 [#]	50	1.5	0.5	24	465.12
		15 [#]	15	1.2	0.5	27	416.67
		24 [#]	20	1.2	0.5	27	365.90
		35 [#]	30	1.2	0.5	27	391.34
		36 [#]	50	1.5	0.5	24	387.07

Drive	Pump Head	Tubing	Filling Volume (mL)	Filling Time (s)	Accuracy (± %)	Output (pcs/min)	Motor Speed (rpm)
CF600 Plus II DF600 Plus II	2*EasyPump	13 [#]	0.5	0.8	0.8	33	353.77
		13 [#]	1	1.2	0.5	27	471.70
		14 [#]	2	0.6	1	38	370.37
		14 [#]	5	1.5	0.5	24	370.37
		19 [#]	10	1.2	0.5	27	454.55
		16 [#]	15	1.2	0.5	27	401.93
		16 [#]	20	1.5	0.5	24	428.72
		25 [#]	30	1	0.5	30	457.55
		17 [#]	50	1	0.5	30	450.05
		18 [#]	70	1	0.5	30	488.37
	DZ25-3L	15 [#]	30	1.2	0.5	27	416.67
		24 [#]	50	1.2	0.5	27	457.37
		35 [#]	70	1.2	0.5	27	456.56
		36 [#]	100	1.5	0.5	24	387.07
CF600 Plus DF600 Plus	KD15	13 [#]	0.3	0.8	0.8	33	352.15
		13 [#]	0.5	1	0.8	30	408.25
		13 [#]	1	2	0.5	20	406.79
		13 [#]	1.5	3	0.8	15	406.75
		14 [#]	2	1	0.8	30	383.12
		14 [#]	3	1.5	0.8	24	383.13
		19 [#]	5	1.2	0.8	27	343.52
		19 [#]	6	1	0.5	30	521.98
		16 [#]	7	1	0.5	30	400.04
		16 [#]	10	1	0.8	30	583.32
		25 [#]	20	1.5	0.8	24	386.06
		25 [#]	25	1.5	0.5	24	480.65
		17 [#]	30	1.2	0.8	27	419
		17 [#]	50	2	0.5	20	420.1
		18 [#]	100	3	0.5	15	406.55
		18 [#]	150	4	0.5	12	460.5
	KD25	15 [#]	10	0.8	0.5	33	365.07
		15 [#]	15	1.2	0.8	27	349.06
		24 [#]	20	1.2	0.8	27	301.53
		24 [#]	30	1.5	0.8	24	350.04
CF600 Plus III DF600 Plus III	DZ25-6L	15 [#]	30	1.2	0.5	27	500.00
		24 [#]	50	1.2	0.5	27	454.55
		35 [#]	70	1.2	0.5	27	437.50
		36 [#]	100	1.5	0.5	24	400.00
CF350 Plus DF350 Plus	DY15	14 [#]	0.5	0.5	0.8	40	94.19
		14 [#]	1	0.6	0.8	38	156.99
		14 [#]	3	1	0.5	30	282.57
		19 [#]	5	1	0.8	30	234.38
		16 [#]	15	1.5	0.5	24	290.42
		25 [#]	20	1	0.5	30	258.29
		17 [#]	30	1	0.5	30	282.53
		18 [#]	100	2.5	0.5	17	251.73
	DY25	15 [#]	10	0.8	0.8	33	177.35
		24 [#]	30	1	0.8	30	235.94
		35 [#]	70	1.5	0.5	24	272.21
		36 [#]	100	2	0.5	20	241.94
CF350 Plus IV DF350 Plus IV	DY35	26 [#]	150	3	0.8	15	234.7
		73 [#]	300	3	1	15	250.4
		82 [#]	500	3	1	15	254.5
CF600 Plus IV DF600 Plus IV	YZ35	26 [#]	50	1	0.5	30	434.78
		26 [#]	100	2	0.5	20	434.78
	YZ35-II	73 [#]	100	1.2	0.5	27	406.50
		73 [#]	150	2	0.5	20	365.85
	2*YZ35	82 [#]	200	1.5	0.5	24	400.00
		73 [#]	100	1.2	0.5	27	203.25
	2*YZ35-II	73 [#]	200	1.5	0.5	24	325.20
		82 [#]	500	2	0.5	20	375.00

Low Pulsation Dispensing Peristaltic Pump

IF3

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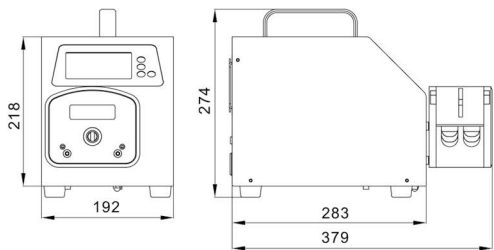
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- Closed-loop stepper motor drive, high precision, low pulsation dispensing peristaltic pump.
- The low pulsation pump head is special for high precision filling. Through the phase difference between the two sets of rollers, make the fluid peaks and valleys complementary, then reduce the pulsation of the fluid.
- Adaptive pressure tubing space, extend the tubing lifetime effectively.
- Achieving high precision dispensing of micro flow rate.
- New flow rate mode, can be used for continuous transferring.
- Can communicate with balance, closed-loop control.

Model Number IF3

Dimension Drawing(Unit:mm)



Product Composition and Flow Rate Range

Drive	Motor Type	Pump Head	Tubing	Speed Range(rpm)	Flow Rate(mL/min)
IF3	Closed-loop stepper motor	DY15	13", 14", 19", 16", 25", 17", 18"	0.1-350	0.01~3337
		DY25	15", 24", 35", 36"		0.42~4340

Filling Volume Reference Parameter(Media is water)

Tubing	Filling Volume	Filling Time	Actual Filling Volume(mL)										Filling Accuracy	
14"	0.5mL	0.5s	0.5003	0.5010	0.4982	0.5015	0.5015	0.5010	0.5014	0.5005	0.4981	0.4998	-0.37%	0.32%
			0.5025	0.4983	0.5024	0.5021	0.5020	0.5004	0.5005	0.4997	0.4977	0.5008		
14"	1mL	1s	1.0037	1.0000	1.0026	1.0003	1.0031	1.0015	1.0000	1.0007	1.0023	1.0035	-0.44%	0.42%
			1.0002	1.0020	0.9968	1.0010	0.9986	1.0026	1.0030	1.0029	1.0023	1.0017		
14"	2mL	1s	2.0020	2.0060	2.0039	2.0037	2.0047	1.9944	2.0062	2.0040	1.9951	2.0060	-0.58%	0.60%
			2.0036	1.9940	2.0024	2.0086	1.9946	2.0005	1.9951	2.0068	1.9971	1.9965		
19"	3mL	1s	3.0058	2.9935	3.0092	3.0008	2.9927	3.0072	3.0046	2.9914	3.0040	3.0000	-0.33%	0.31%
			2.9902	3.0048	3.0008	2.9919	2.9984	3.0012	3.0084	2.9915	2.9990	3.0051		
16"	5mL	1s	5.0215	4.9982	5.0145	5.0038	4.9864	5.0183	4.9962	5.0227	5.0158	4.9806	-0.39%	0.50%
			5.0248	5.0070	4.9861	5.0108	4.9995	5.0080	5.0044	4.9868	5.0231	4.9977		
25"	10mL	1s	10.02	10.04	10.00	9.98	10.02	10.03	10.04	10.04	10.01	9.99	-0.20%	0.40%
			10.00	10.02	10.02	10.04	9.99	9.98	10.00	10.04	10.02	10.03		
25"	15mL	1s	15.02	14.97	14.97	14.94	15.00	15.00	14.94	14.95	14.96	14.99	-0.47%	0.13%
			14.96	14.95	14.96	14.99	14.98	14.94	14.93	14.93	14.98	14.96		
17"	30mL	1s	29.92	30.01	29.99	29.91	29.83	29.86	29.91	29.91	29.91	29.89	-0.57%	0.20%
			29.88	29.96	30.03	30.06	30.02	30.02	30.06	29.96	29.96	29.83		
18"	100mL	2.5s	99.80	99.90	99.80	99.90	100.00	100.00	100.10	100.00	100.10	100.00	-0.20%	0.30%
			99.80	100.00	100.10	100.20	99.90	100.10	100.00	100.30	100.10	100.10		
15"	10mL	1s	9.97	10.01	9.96	9.98	10.01	9.96	9.97	9.99	9.96	9.96	-0.60%	0.10%
			10.00	9.94	9.97	10.00	9.96	9.97	10.00	10.00	10.01	9.97		
24"	30mL	1s	29.90	29.80	30.10	29.90	29.90	30.00	29.90	29.90	30.00	29.90	-0.67%	0.33%
			29.90	29.90	29.90	29.90	29.90	29.80	30.00	29.90	29.90	30.00		
35"	70mL	1.2s	69.80	69.90	69.90	69.90	69.70	70.10	70.00	69.70	69.90	69.90	-0.43%	0.43%
			69.90	70.10	70.00	69.90	70.30	69.70	70.10	69.70	69.70	69.90		
36"	100mL	2s	99.80	99.90	99.80	99.80	100.00	99.90	99.90	99.90	99.90	99.90	-0.20%	0.10%
			99.80	99.90	99.90	99.90	100.00	100.10	99.80	100.10	99.90	99.90		

Peristaltic Pump Accessories



Handling Dispenser



Foot Pedal Switch



Foot Pedal Switch



Flat filling nozzle SS304/SS316



Reducer anti-splash filling nozzle SS316



Filling Countersunk filling nozzle SS316



Experimental support



Filling bracket



Benchtop Tubing Cutter



5V Sensor



One Way checkvalve



Fluid Pulse Damper

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			

Peristaltic Pump Tubing

SAINT-GOBAIN Tubing : Tygon, PharMed BPT, Norprene etc

Formulation	Tygon3350	Tygon R-3603	Norprene Chemical	PharMed	Norprene A-60-F
Application	Pharmaceutical, cosmetic, medical and auto-analysis application.	General laboratory, food & beverage, biopharmaceutical, analytical instruments.	Excellent for chemical processing and general industrial applications. Food and beverage applications where extractables are a concern.	Cell and tissue culture work and pharmaceutical uses. Also good for light-sensitive samples.	Ideal for the food, dairy and beverage.
Advantages	Ultra-smooth; minimizes bacterial growth. Good for mild to medium concentration bases, salts and alcohols; odorless, tasteless, and nontoxic. Transparent.	Inexpensive tubing for general lab application. Nonaging, nonoxidizing. Clear for easy flow monitoring. Handles virtually all inorganic chemicals. Low gas permeability. Smooth bore; good for viscous fluids. High dielectric constant.	Norprene thermoplastic elastomer outer jacket with chemically inert Tygon® 2075 inner bore for excellent chemical resistance. Plasticizer-free to guard against extractables. Long flex life. Opaque beige.	Great for tissue and cell work-nontoxic and nonhemolytic; long service life minimizes risk of fluid exposure; reduces tubing costs and pump downtime. Opaque to UV and visible light to protect light-sensitive fluids. Heat sealable, bondable, and formable. Extremely low gas permeability.	Heat, ozone, and UV light resistant. Nonaging; nonoxidizing; superior acid and alkali resistance. Opaque beige.
Application Suitability	—————	ACIDS GOOD ALKALIES GOOD ORGANIC SOLVENTS NO PRESSURE GOOD VACUUM GOOD VISCOUS FLUIDS EXCELLENT STERILE FLUIDS GOOD	—————	ACIDS GOOD ALKALIES GOOD ORGANIC SOLVENTS NO PRESSURE GOOD VACUUM EXCELLENT VISCOUS FLUIDS GOOD STERILE FLUIDS EXCELLENT	—————
Physical characteristics	—————	Thermoplastic. PVC-based material with plasticizer. Firm (stiff) material. Transparent, clear.	—————	Thermoplastic elastomer. Polypropylene-based material with USP mineral oil. Excellent tensile strength. Firm (stiff) material. Opaque, beige.	—————
Temp.range	-75 to 450° F (-60~232° C)	-58 to 165° F (-50~74° C)	-76 to 165° F (-60~74° C)	-60 to 270° F (-59~135° C)	-60 to 275° F (-51~135° C)
Meets classifications	FDA 21 CFR 177.2600 USP Class VI EP 3.1.9. Exceeds 3A standards Manufactured according to GMP.	FDA 21 CFR 175.300	None.	None.	FDA 21 CFR 177.2600 NSF listed (Standard 51) Manufactured according to GMP.
Cleaning/ Sterilization	Ethylene oxide gamma irradiation, or autoclave for 30 min, 15psi (1 bar).	Unaffected by commercial sanitizers (with recommended procedures) Sterilize with ethylene oxide (ETO) or autoclave. To autoclave: Coil loosely in nonlinting cloth or paper; autoclave at 121°C (250°F). 1KG/cm³ (15psi) for 30 minutes (tubing will appear milky); air dry at max 66°C (150°F) for 2 to 2 ½ hours until clear.	Sterilize with ethylene-oxide(ETO), autoclave or gamma irradiation up to 2.5Mrad. Repeated autoclaving will not affect overall life.	Autoclave, ethylene oxide, or gamma irradiation.	Autoclave.

Peristaltic Pump Tubing

	 Norprene A-60-G	 Tygon F-4040-A	 Tygon LFL	 TYGON 2475	 Viton
Formulation	Norprene A-60-G	Tygon F-4040-A	Tygon LFL	TYGON 2475	Viton
Application	For applications requiring excellent chemical, heat, ozone, and ultra-violet (UV) light resistance.	Fuels and industrial lubricants-gasoline, kerosene, heating oils, cutting compounds, and glycol-based coolants. Resists most hydrocarbons.	General laboratory use, provides longer life with peristaltic tubing pumps.	Sensitive fluid transfer applications requiring high purity.	Acid and solvent transfer, high-temperature.
Advantages	Best choice for vacuum/pressure applications. Offers longest life with good flow consistency. Heat and ambient ozone resistant. Good resistance to acids/alkalies. Black color hides dirt and dust. Heat sealable, nonaging, and nonoxidizing. High dielectric constant.	Resists embrittlement and swelling, ozone-and UV-resistant, with low-extractability. Translucent yellow.	Longest life of all Tygon® peristaltic tubing (1000hrs). Nonaging, nonoxidizing. Lear for easy flow monitoring. Broad chemical resistance; low gas permeability. Smooth bore. Good for viscous fluids. High dielectric constant.	Plasticizer free, smooth inner surface (inhibits particulate buildup and bacterial growth), safely disposed of through incineration and nontoxic. Transparent.	The most chemical resistant tubing. Registrant to corrosives, solvents, and oils at elevated temperatures. Low gas permeability.
Application Suitability	ACIDS GOOD ALKALIES GOOD ORGANIC SOLVENTS NO PRESSURE EXCELLENT VACUUM EXCELLENT VISCOUS FLUIDS EXCELLENT STERILE FLUIDS NO	—	ACIDS GOOD ALKALIES GOOD ORGANIC SOLVENTS NO PRESSURE GOOD VACUUM GOOD VISCOUS FLUIDS EXCELLENT STERILE FLUIDS POOR	—	ACIDS EXCELLENT ALKALIES EXCELLENT ORGANIC SOLVENTS EXCELLENT PRESSURE GOOD VACUUM GOOD VISCOUS FLUIDS GOOD STERILE FLUIDS FAIR
Physical characteristics	Thermoplastic elastomer. Polypropylene-based material with USP mineral oil. Excellent tensile strength. Firm (stiff) material. Opaque, black. Manufactured according to GMP.	—	Thermoplastic. PVC-based material with plasticizer. Firm (stiff) material. Transparent, clear.	—	Thermal set rubber. Viton B (67% fluorine) Firm (stiff) material Opaque, black. Manufactured according to GMP.
Temp.range	−60 to 270° F (−59~135° C)	−35 to 165° F (−37~74° C)	−58 to 165° F (−50~74° C)	−94 to 125° F (−70~52° C)	−25 to 400° F (−32~205° C)
Meets classifications	None.	Meets NSF-51 and 3A sanitary standards.	USP Class VI, FDA 21 CFR 175.300	FDA 21 CFR 177.1520, USP 23 Class VI, Manufactured according to GMP.	None.
Cleaning/ Sterilization	Sterilize by autoclave only.	Not recommended.	Sterilize by ETO/autoclave. Coil loosely in nonlinting cloth or paper; autoclave at 250°F(121°C), 15 psi (1kg/cm²), 30 minutes (tubing will appear milky); air dry at max 150°F (66°C) for 2 to 2 ½ hrs until clear.	Ethylene oxide or gamma irradiation.	Sterilization is not recommended.

APPLICATION AREAS



Diagnostic reagent dispensing



Pharmaceutical Filling



Food and beverage Filling



Daily chemical Filling

TYPICAL APPLICATIONS

- Diagnostic reagent dispensing |
- Oral liquid filling |
- Disinfectant filling |
- Juice drink filling |
- Shampoo filling |
- Glow stick filling |
- Wolfberry puree filling |
- CBD oil filling |
- Beverage filling |
- Detergent filling |
- Perfume filling |