

PC control precision Pumps & Valve.

FLOM Pumps and Valve PC Control Software *iChem Flow Sequencer*



for *Flow Chemistry*

Flow experiments by selecting the pumps (up to 3) and valve type!

- ◇ FLOM's pumps [UI-22 series] (up to 3 units) and automatic switching valves [VA-21 series] can be programmed on a PC for liquid transfer.
- ◇ The simple screen is easy to understand and can be easily applied to precision flow chemistry.
- ◇ Install iChem Flow Sequencer on your Windows PC and start using it right away.
- ◇ A communication cable between the device and the PC, a standard liquid transfer tube, and a union are included as standard accessories.
- ◇ Combinations can be freely selected, such as small to large flow rates, materials of wetted parts, number of valve ports, etc. (Refer to the list on the back page).

* If you already have the UI-22/VA-21, we can sell the software only.

Depending on the experimental plan, the type and number of pumps (1 to 3) and automatic switching valves are arranged. Flexible customization enables continuous flow chemistry from microreactors to scale-up flow synthesis.

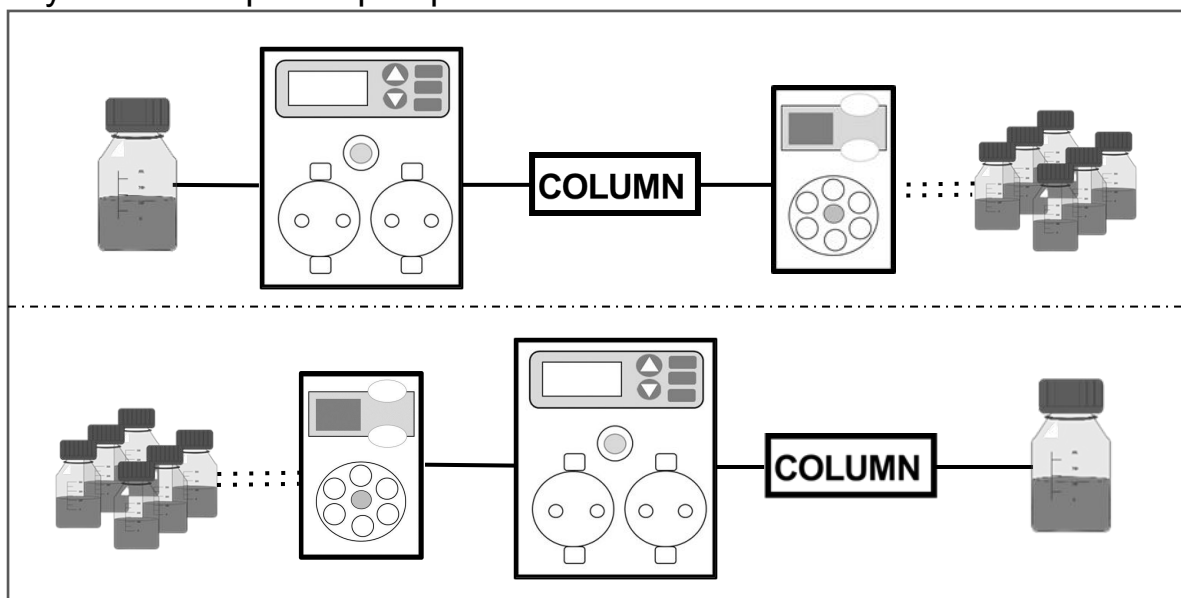
- Easy installation on Windows PC.
- Enter the flow rate and time for each step.
- Enter the valve position step by step. [Solvent selection or fraction position]
- Immediately after pressing the start button, the programmed solution is sent.
- Up to 999 minutes can be entered in one step. [Able to drive all night]

- UI-22 series pumps have a linear drive system [Low pulsating flow closer to non-pulsating flow] [Significantly reduced air bubble problems]
- Flow rate: 0.001 to 9.999 mL/min
0.01 to 99.99 mL/min
- VA-21 Series Valves: General Analysis/ High-speed analysis, preparative separation, flow path selection, solvent switching.
- Wetted head can be selected for both pump and valve.

<Standard accessories>

Depending on the number of pumps and the presence or absence of valves, fittings and communication cables and hubs with PCs are standard equipment. PEEK tubing, tubing cutters, and standard fitting unions are also included in the service. Flow experiments can be performed on the day the system arrives.

System example / 1 pump and 1 valve each



System example / 3 pumps, 1 valve

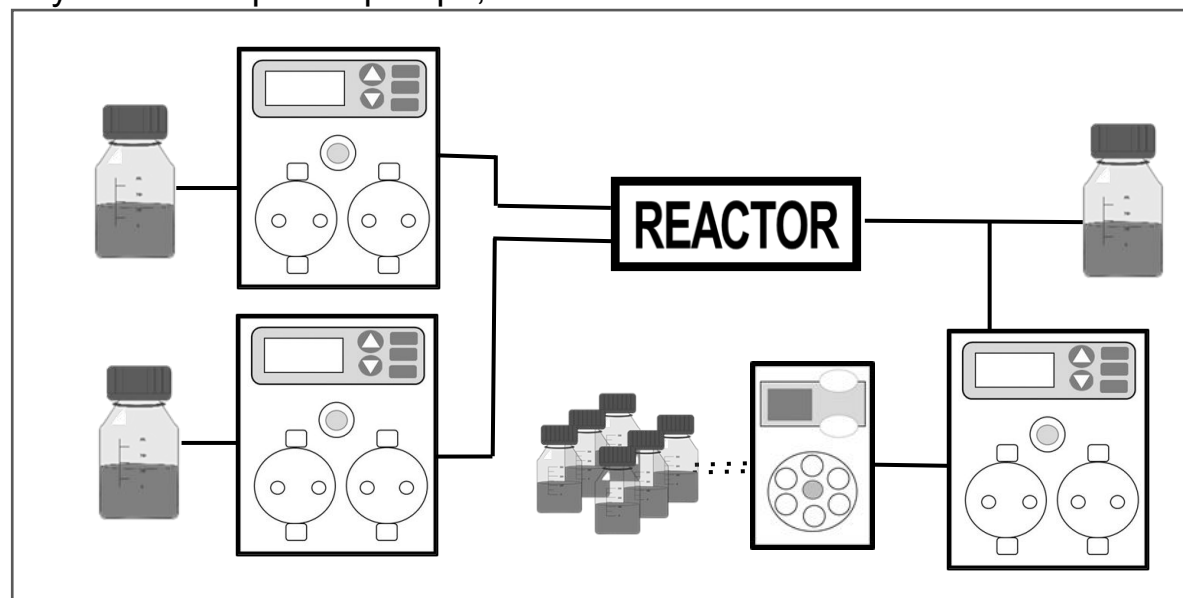
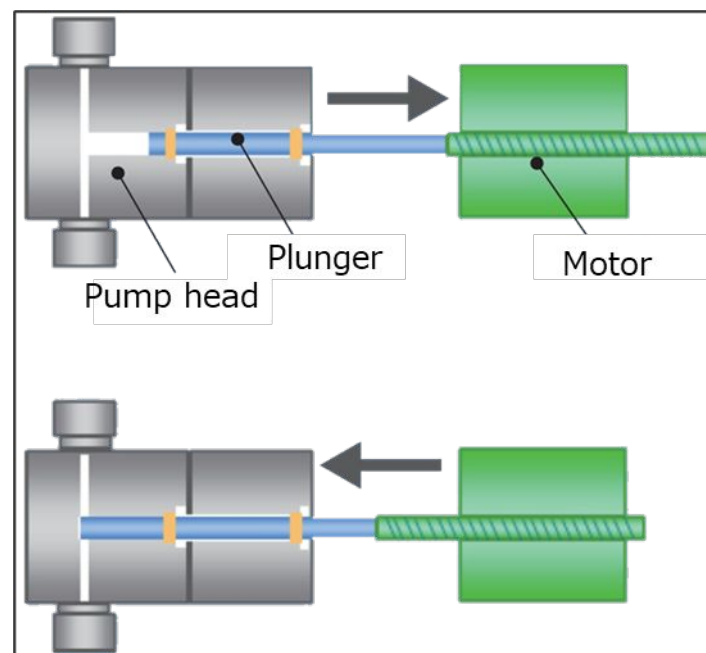


Table (1) Pump

product name	Intelligent Pump			
P/N	UI-22-110S	UI-22-110P	UI-22-410S	UI-22-410P
Head material	SUS	PEEK	SUS	PEEK
Maximum pressure*1	35Mpa	20MPa	5MPa	5MPa
Set flow range*2 (mL/min)	0.001~9.999	0.01~99.99	0.01~99.99	0.01~99.99
volume per head	80μL		708μL	
plunger stroke	10mm		10mm	
Flow reproducibility	< 0.3%			
Special function	self-learning function (performance mode), Flow correction, Upper/Lower pressure limiter			
Pressure display accuracy	< 5%			
Wetted part material	SUS: Sapphire, Ruby, PTFE, PCTFE, PFA, ETFE, Kalrez, HDPE, PEEK, SUS PEEK: Sapphire, Ruby, PTFE, PCTFE, PFA, ETFE, Kalrez, HDPE, PEEK			
Contact input signal	Input: PUMP ON/OFF, Output: Error signal			
Communication	RS232C			
Dimensions/Mass	144(H)x105(W)x240(D)mm except protruding object about 5.6kg			

*1 The maximum discharge pressure is the instantaneous maximum pressure.
And it does not mean the normal maximum discharge pressure at the maximum flow rate.
*2 Liquid transfer for a long time with the maximum flow rate setting cannot be performed.

What is the UI series pump linear drive type?



A linear drive is a method in which the plunger moves coaxially with the motor shaft. In the left figure, the plunger moves left and right.

The plunger stroke length is about 2.5 times longer than the cam drive type, achieving powerful suction and ejection.

Table (2) automatic valve

part number	standard	switching type	pressure resistance	wetted part material	connection pipe diameter	connection screw standard	flow channel diameter
VA-21-601	6 directions switching		40 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.25 mm (0.01")
VA-21-602			30 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.25 mm (0.01")
VA-21-603			40 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-604			30 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-605			20 MPa (2900 psi)	SUS, PEEK	1/16"	No.10-32UNF	1.0 mm (0.04")
VA-21-606			20 MPa (2900 psi)	PEEK, ceramic	1/16"	No.10-32UNF	1.0 mm (0.04")
VA-21-607			5 MPa (725 psi)	SUS, PEEK	3.0 mm or 1/8"	M8x1.25	2 mm (0.079")
VA-21-608			5 MPa (725 psi)	PEEK, ceramic	3.0 mm or 1/8"	M8x1.25	2 mm (0.079")
VA-21-609	4 directions switching		40 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-610			30 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-611	1-2 directions switching (3 directions valve)		40 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-612			30 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-613			5 MPa (725 psi)	SUS, PEEK	3.0 mm or 1/8"	M8x1.25	2 mm (0.079")
VA-21-614			5 MPa (725 psi)	PEEK, ceramic	3.0 mm or 1/8"	M8x1.25	2 mm (0.079")
VA-21-615	1-4 directions switching		40 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-616			30 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-617	1-6 directions switching		40 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-618			30 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-619			41 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.25 mm (0.01")
VA-21-620			31 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.25 mm (0.01")
VA-21-621	1-12 directions switching		41 MPa (5800 psi)	SUS, PEEK	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-622			31 MPa (4350 psi)	PEEK, ceramic	1/16"	No.10-32UNF	0.5 mm (0.02")
VA-21-623	8 directions switching		20 MPa (2900 psi)	SUS, PEEK	1/16"	No.10-32UNF	1.0 mm (0.04")

We offer a variety of options for flow chemistry [made by DFC Co., Ltd. etc.]

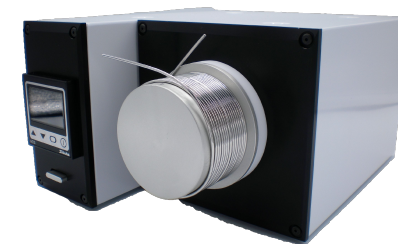
Various types of photoreactive reactors



Manual small back pressure valve



tube heater



Select the pump and valve part numbers from the tables (1) and (2).

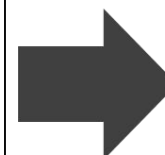


Pump 1

Pump 2

Pump 3

Valve



Quotation

Manufacture and sales

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