

Auto Sampler W, Model PAS-615

Used with Dissolution Tester for Fraction and Flow Measurements

This is a full automatic sampler to be used with 6-shaft or 8-shaft dissolution tester, with the following two functions:

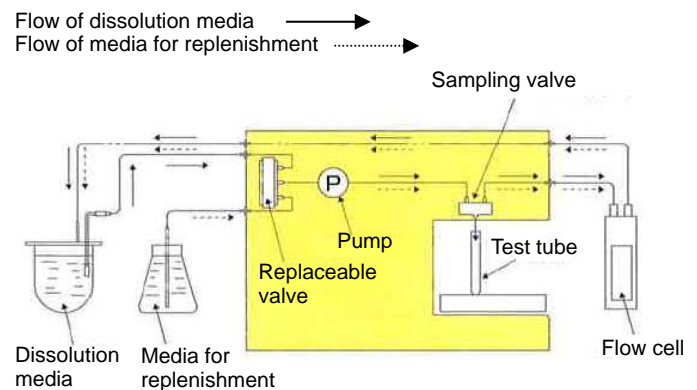
- 1) The same quantities of dissolution media in 6 flasks are simultaneously fractionalized into the specified test tubes and the same quantities of fresh media are replenished.
- 2) The same quantities of dissolution media in 6 flasks are simultaneously introduced into 6 flow cells (to be used for 6-spindle flow system jointly developed with SHIMADZU).

The main unit is separated from its exclusive control unit, PAS-62C.

Three types of systems are available, say, "PAS-FR System C" using the main unit with PAS-62C, "PAS-FR System P" using a PC for control instead of PAS-62C, and "PAS-FR UV" for sampling to 6 flow cells to make flow measurements using SHIMADZU's spectrophotometer.



[Mechanism]



<Features>

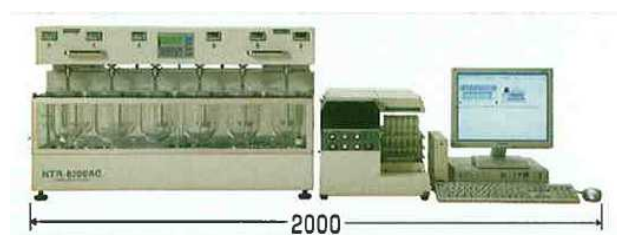
- **Dual purpose for fraction and flow measurement:**
Both of those two functions can be switched over for hybrid use.
- **Control by an exclusive control unit or PC:**
The main unit is controlled by an exclusive control unit, PAS-62C. It can be also controlled by PC using an exclusive software.
- **Corrosion-resisting sampling and replaceable valves:**
Those valves are highly resistant to chemicals and wear, and all the tubes except a pump tube are made of Teflon (with 6 different colors).
- **pH change of dissolution media by programming:**
During flow measurement, dissolution test can be conducted while changing pH of dissolution media at the programmed time.
- **Consecutive flow and fraction measurements:**
After flow measurement, a sampling valve opens and certain quantity of dissolution media can be fractionalized for consecutive UV flow measurement.
- **Interlock with auto probe mechanism of a dissolution tester:**

<PAS-FR System C (Fraction)>



You input sampling quantity and time to an exclusive control unit. Specified quantity of dissolution media in 6 flasks are fractionalized into specified numbers of test tubes, and the same quantity of fresh media is replenished immediately. This system is widely used as it has a broader range of applications for the samples which will need pretreatment of dilution, filtering and reagent addition, etc.

<PAS-FR System P (Fraction)>



You input sampling quantity and time using our exclusive software (Windows XP/2000 based). Specified quantity of dissolution media in 6 flasks are fractionalized into specified numbers of test tubes, and the same quantity of fresh media is replenished immediately.

<PAS-FR System UV (Fraction & Flow)>



Flow and fraction measurements can be switched over. In case of flow measurement, dissolution media in 6 flasks are sampled to 6 flow cells by programming, and one or two wavelength measurements are conducted using the connected spectrophotometer. Data processing for dissolution quantity, rate and time, etc. is available. In case of fraction measurement, it is the same as the PAS-FR System P above. pH change by programming is possible.

1. Fraction Measurement

(1) Pre-circulation

When it comes to 30 seconds (settable) before the preset fraction starting time, tube pump starts running and dissolution media flows. This pre-circulation is conducted for 30 seconds before the fraction. When an auto probe mechanism is applied, a sampling probe is immersed into a flask before this pre-circulation starts.

(2) Fraction

When the pre-circulation ends, a sampling valve opens and specified quantity of dissolution media is fractionalized into test tubes.

(3) Protection from media drops

After fraction ends, a tube pump runs reversely for 1 second (settable) to remove media drops remaining at the nozzle tip of a sampling valve.

(4) Replenishment of fresh media

A sampling valves closes after the above protection from media drops, a replaceable valve is switched to the route of fresh media replenishment. This valve opens for the same time as that of fraction, and the same quantity of fresh media as fractionalized is replenished,

(5) Return of media on the route

After the fresh media replenishment, a replaceable valve is switched back to the original position, and a tube pump runs reversely to let the media staying on the route return into the original flask through a filter. When an auto probe function is applied, a sampling probe comes out of a flask as soon as the media has been returned into the flask.

(6) Next sequence

When it comes to 30 seconds (settable) before the next fraction interval, the steps of (1) to (5) above are repeated. When all the programmed fractions have ended, a rack of test tubes returns to its start position and both of the dissolution tester and auto sampler W are automatically stopped. (There is no fresh media replenishment after the last fraction has ended.)

2. Flow Measurement

(1) Pre-circulation

When it comes to 30 seconds (settable) before the preset fraction starting time, tube pump starts running and dissolution media flows. This pre-circulation is conducted for 30 seconds before the fraction. When an auto probe mechanism is applied, a sampling probe is immersed into a flask before this pre-circulation starts.

(2) Measurement

When the pre-circulation ends, a tube pump stops, and the dissolution media staying in 6 flow cells are automatically measured by a spectrophotometer. The media is re-circulated, counting the flow time (settable) for arrival from a flask to a flow cell.

(3) Return of media on the route

After measurement, a tube pump runs reversely, and the media staying on the route is returned into the original flask through a filter. When an auto probe function is applied, a sampling probe comes out of a flask as soon as the media has been returned into the flask.

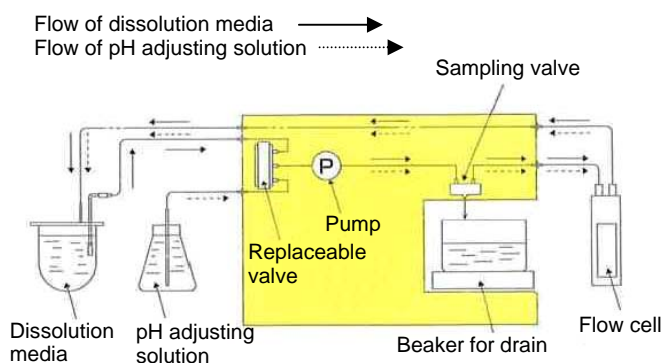
(4) Next sequence

When next interval of measurement comes, the steps of (1) to (3) above are repeated. When all the programmed measurements end, the dissolution tester, auto sampler W and spectrophotometer are all automatically stopped.

3. pH Change by Programming

UV flow measurement is conducted by changing dissolution media's pH with time by programming. In this case, pH adjusting solution is set in place of fresh media for replenishment, and a beaker for drain is also set under a sampling valve (including 6 nozzles).

After the programmed UV flow measurements end, a sampling valve opens, and specified quantity of media is drained, and at the same time, the same quantity of pH adjusting solution is introduced into the flow route for consecutive UV flow measurements.

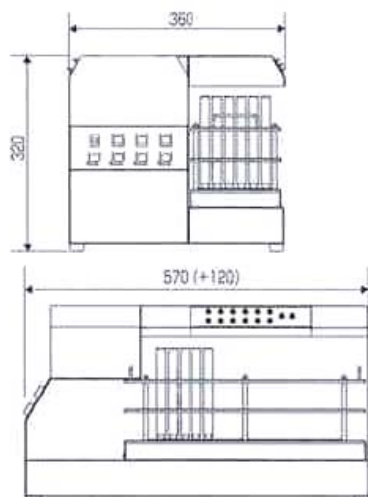


<Specifications>

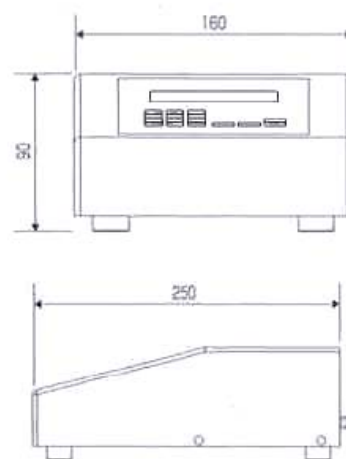
Model	Main unit Control	PAS-615 Control unit, PAS-62C or by PC
Function	Fraction function & flow measurement function	
Control method	1) By micro-computer of control unit, or 2) By PC using our exclusive software	
Number of channel	6 channels (3 channels are usable.)	
Circulating pump	6-spindle tube pump (flow rate at about 30mL/min.)	
Time-lapse monitor	Time lapse from a test start is digitally displayed.	
Filter part	Fine filter method (polyester fabric, disposable) or glass filter method option)	
Power source	100V AC (200-240V also available), 50/60Hz	
Max. power consumption	0.1kVA	
Dimensions & weight	Main unit: 36(W) x 57(D) x 32(H) cm, Approx. 23kg Control unit: 16(W) x 25(D) x 9(H) cm, Approx. 3kg	
Temperature for use	Room temp. to 40°C	
In case of fraction: Sampling interval	Programmable for 2 min./step or more (Min. 1 minute is settable for the initial interval only.) (3 minutes or more for the quantity of 11mL or more.)	
Number of sampling	15 pieces/sample x 6 samples	
Quantity of sampling	1 to 10mL/piece	
Replenishment of fresh media	Within $\pm 10\%$ (The same quantity as sampled is replenished.)	
Accuracy of replenishment	Within $\pm 10\%$ (at 5mL or more)	
In case of flow measurement: Measuring interval	Programmable by PC only Minimum interval of 2 minutes or more with no limit for step number (Min. 1 minute is settable for the initial interval only.)	
pH change with time	Available	
Flow & fraction	Available	

■ Outer Dimensions

Main unit (PAS-615)



Control unit (PAS-62C)



<Standard Configuration>

Description	Control method	When using a control unit	Control by PC	
			Fraction only	Fraction & flow
Main unit (PAS-615)		1 set	1 set	1 set
Test tube rack		1 set	1 set	1 set
Test tube		100 pcs.	100 pcs.	100 pcs.
Flask cover		6 pcs.	6 pcs.	6 pcs.
Fine filter (F-72)		200 pcs.	200 pcs.	200 pcs.
Stainless steel pipe for filter (with rubber plug)		6 pcs.	6 pcs.	6 pcs.
Stainless steel pipe for filter (without rubber plug)		2 pcs.	2 pcs.	2 pcs.
Return pipe (with rubber plug)				
Tubes for routing (Teflon color tubes)				
1. for suction (6 pcs.)	} Bundled into one	2 bundles	2 bundles	2 bundles
2. for discharge (6 pcs.)				
3. for bypass				
6 pcs.		6 pcs.	6 pcs.	
Tube for fresh media replenishment		2 pcs.	2 pcs.	2 pcs.
Parts for auto probe mechanism		1 set	1 set	1 set
Control unit (PAS-62C)		1 set	-	-
Software (Dissolution test, FR system)		-	1 set	1 set
Software (Dissolution test, UV system)		-	-	1 set
Interface (RS-I/O-12B), with cable		-	1 set	1 set
Connecting cable (main unit – control unit)		1 pce.	-	-
Connecting cable (dissolution tester – control unit)		1 pce.		
Vinyl cover		1 pce.	1 pce.	1 pce.
Operation manual (for auto sampler W)		1 copy	1 copy	1 copy
Operation manual (for control unit)		1 copy	-	-
Operation manual (for software)		-	1 copy	1 copy

Export Agent:

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