

PHOTORESIST
DISPENSING
PUMPS

PDS



A resist-saving photoresist dispensing pumps

Wasteful use of resist, variation of application amount, contamination, accumulation of bubbles, and so forth— these are problems experienced in the photoresist coating process.

Now, all of them can be solved by the PDS series.

Saving of resist will lead to remarkable cost reduction and improvement of production efficiency.

Substantial Saving of Resist

The use of a high-torque stepper motor as the drive source results in a consistent discharge volume, unimpeded by filter clogging or viscosity change. A repeatable accuracy (0.3%) of discharge is maintained.

- Repeated precision: $\pm 0.3\%$ (F.S.)
- Linearity: $\pm 0.5\%$ (F.S.) Note: PDS-105R type
- Resolution: 0.01 ml or below

Contamination-free

The pump portion is of tubephragm structure wetted internals are flat and smooth, with a small dead volume. Because the system hardly has a place that allows liquid resist to dwell, production of particles is prevented.

Usable for a Variety of Coating Processes

Since the discharge velocity can be changed freely in a shot, the system is capable of dealing with a variety of resist coating processes including application of a very small amount or in a very short period of time.

Reduction of Downtime

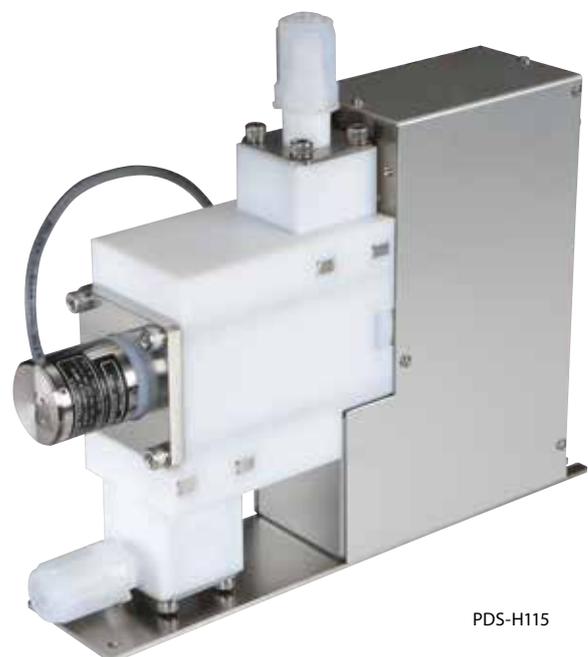
A discharge amount and a discharge time can be set only by entering values in the controller. It can save operator's time and labor and reduce downtime.

Suitable for highly-viscous photoresist in LED and MEMS production (PDS-H115)

Rated for viscosities up to 10,000mPa·s used in manufacturing processes including LED and MEMS. And also for filling electrolysis solution.



PDS-105R



PDS-H115

An Example of Cost Curtailment

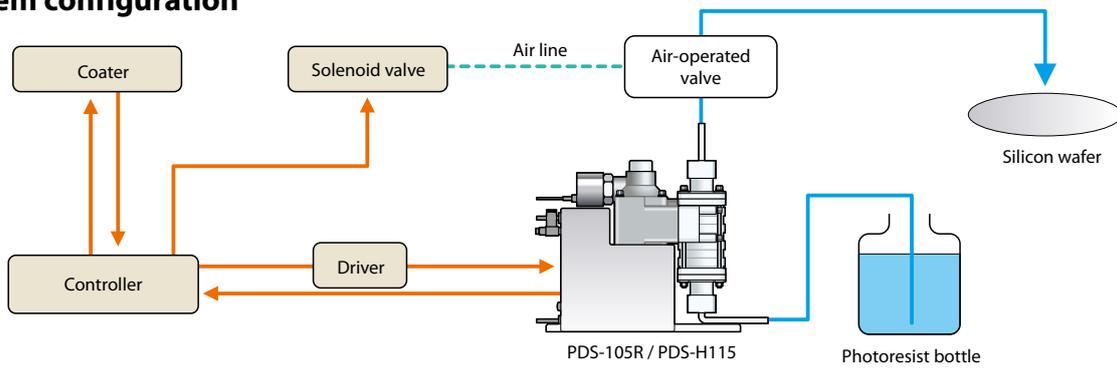
- Amount of saved resist: 1.5 ml/shot
- Number of resist applications: 20 times
- Number of produced wafers: 30,000/month
- Price of resist: \$500/gallon

In the above case, the amount of resist saved annually is:

$$1.5 \text{ (ml/shot)} \times 20 \text{ (times)} \times 30,000 \times 12 \text{ (months)} = 10,800 \text{ (liters)} = 2,851 \text{ (gallons)}$$

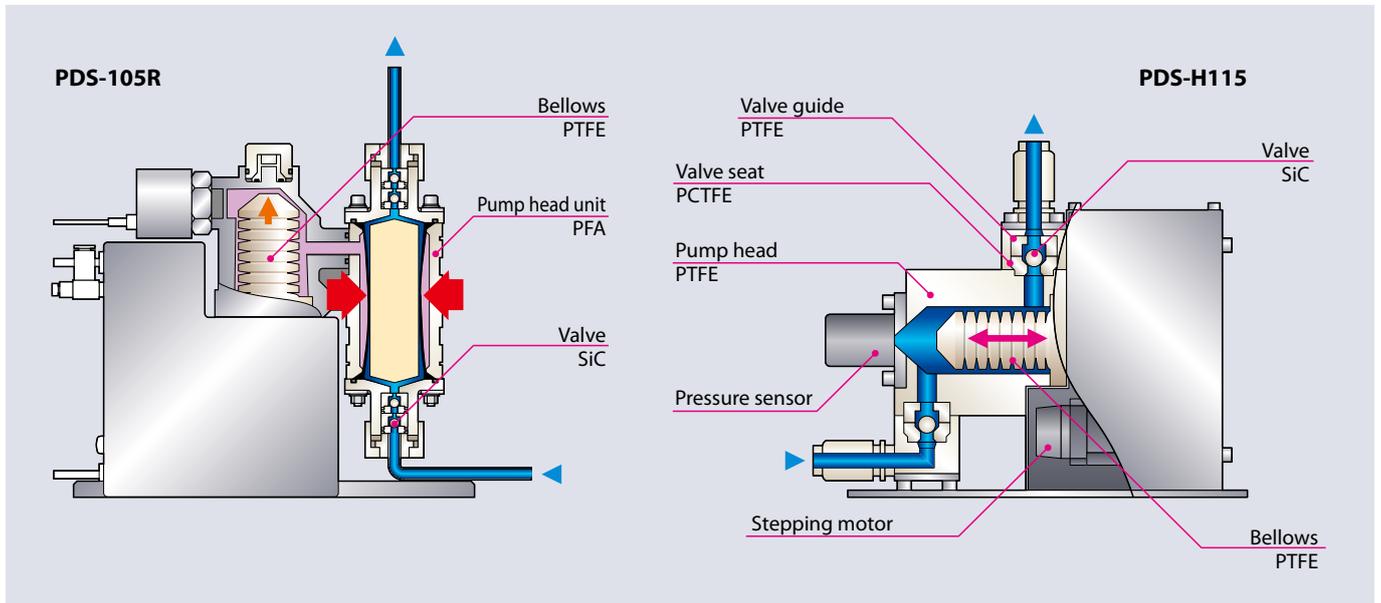
$$2,851 \text{ (gallons)} \times 500 \text{ ($) } = \$1.4 \text{ million}$$

System configuration



Note: Use an optional driver. Purchase separately. Contact our sales reps for applicable controller in advance. For the other peripheral devices, provide by yourself.

Construction and materials



Specifications

Model		PDS-105R	PDS-H115
Max. discharge capacity	mL/shot	5.0	12.0
Discharge speed	mL/sec	0.1 - 4.0	0.5 - 2.0
Suction speed	mL/sec	0.1 - 3.0	0.3 - 2.0
Max. discharge pressure	MPa	0.15	1.0
Repeatability		0.3% or below (F.S.)	
Max. allowable viscosity	mPa·s	200	10,000

Above specification may be changed by installation, handling liquid, etc. For detail, please contact us.

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Caution for safety use:
Before use of pump, read instruction manual carefully to use the product correctly.

Actual pumps may differ from the photos.
Specifications and dimensions are subject to change without prior notice. For further details please contact us.



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