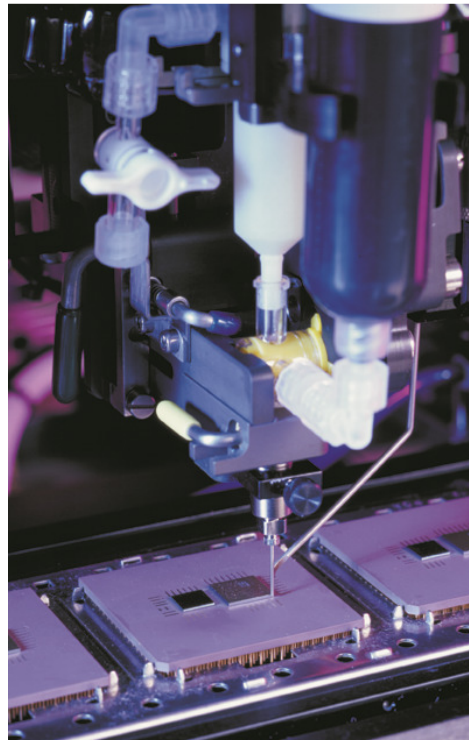


# DP-3000 Series Linear Pump

## Linear Pump Technology for High-Volume Production

### Features and Benefits

- **Rapid refill speed for optimal underfill dispensing**
- **Quick-release mechanisms of wetted parts for easy setup and removal from the system**
- **Tool-free disassembly and assembly for quick and easy cleaning**
- **Better than 1% 3-sigma accuracy for consistent dispensing with multiple programmable shot sizes**
- **Fast, efficient priming with minimal material waste**
- **High flow rate for high throughput**
- **True positive, displacement dispensing, independent of viscosity**
- **Outperforms rotary positive displacement pumps with regard to accuracy, speed, and wear**



The DP-3000 Series linear pump is the third-generation linear pump designed and manufactured exclusively by Nordson ASYMTEK to meet today's requirements for high-volume production, 24 hours a day, 7 days a week. This third-generation pump has redefined the industry standard for speed and accuracy, providing flow rates to 500 mg/sec with accuracy of  $\pm 1\%$  at 3-sigma repeatability. Performance accuracy and speed of volume deposition is precisely maintained for applications ranging from very large BGA to very small flip chip die. The pump is ideal for dispensing a wide range of filled and unfilled fluids such as encapsulates, adhesives and thermal compounds for applications such as flip chip underfill, CSP underfill, and BGA cavity fill encapsulation.

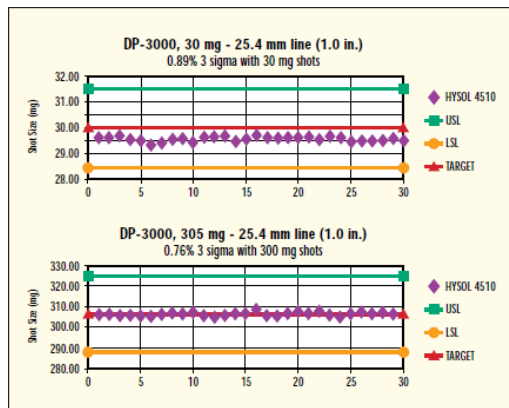
The DP-3000 linear pump is a servo-controlled, volume displacement pump compatible with Nordson ASYMTEK'S automated dispensing systems. It is a true positive displacement linear pump that is not affected by production variations in fluid viscosity, supply pressure or fluid/pump temperature. Whether dispensing lines, spiral fills, dots or patterns, the linear pump's servo drive

mechanism and Fluidmove® for Windows NT® software allow multiple shot sizes in the same program. High flow rates not possible with auger pumps are now a reality with Nordson ASYMTEK'S linear pump technology.

*How it works:* The pump design uses volumetric displacement technology and a DC servo motor with encoder to control true piston motion. The piston changes the volume of a reservoir that is fed from the main syringe. The displacement of the piston in the reservoir results in an equivalent positive displacement of fluid through the pump. A pneumatically actuated disposable valve controls the refill of the reservoir and provides integrated, no-drip performance.

The pump's flow rate is a function of the piston's speed and diameter. Changes in viscosity, needle size, and supply pressure have no effect on the flow rate.

The pump has quick-release mechanisms for tool-free removal of the syringe, stopcock, and pump chamber.



*DP-3000 Performance:* The DP-3000 linear pump establishes a new, higher performance plateau. This figure shows the excellent repeatability and tight tolerances achieved in typical underfill and cavity fill for 30-305 mg shot sizes. These results are typical. Depending on fluid and other conditions, results may vary. Call us with questions about your specific application.

## Specifications: DP-3000 Series Linear Pump

Drip: no drip with 1 cps fluid  
 Flow rate: 0.006 ml/s to 1 ml/s  
 Shot size: 0.002 to 2 ml  
 Resolution: 0.00025 ml  
 Accuracy: <1.5%, 3 sigma for 30 mg shots  
 <1.0%, 3 sigma for 300 mg shots  
 Dimensions:  
 Length: 203.2 mm (8.00 in.)  
 Width: 83.8 mm (3.3 in.)  
 Depth: 88.9 mm (3.50 in.)

The above specifications are independent of fluid viscosity within the range specified below. Due to the large number of available fluids and needle sizes, dispensing conditions may vary. Contact Asymtek to discuss your specific applications.

### Fluid Specifications:

Viscosity: 1 cps to 1 Mcps

### Option:

Tool-free Quick Release Bracket for fast removal of the pump

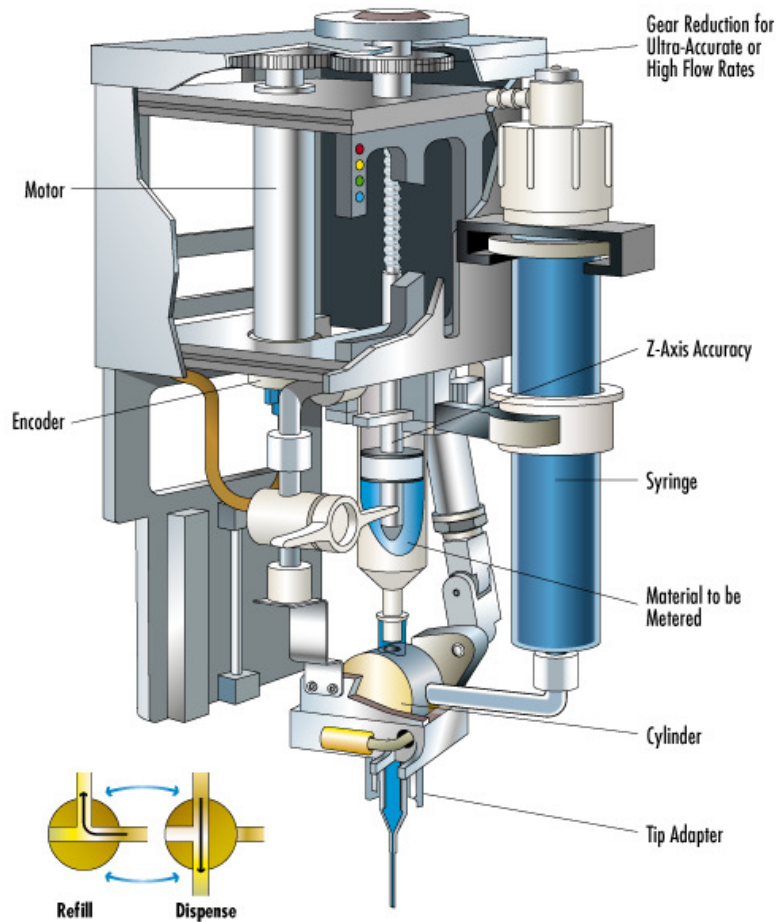
### Choosing the Right Model

Pump	Wetted Parts	Applications
DP-3120	Polycarbonate with encoder control	Up to 1 cc shots of material compatible with polycarbonate
DP-3140	Polycarbonate with encoder control	Up to 2 cc shots of most encapsulants for applications compatible with polycarbonate
DP-3320	Nylon with encoder control	Up to 1 cc shots of material, ideal for applications where nylon is preferred for chemical compatibility
DP-3340	Nylon with encoder control	Up to 2 cc shots of material, ideal for applications where nylon is preferred for chemical compatibility

The last three digits of the part number, DP-3xyz, indicate the pump configuration

(X= stopcock, Y= chamber size, and Z= motor type).

1. Conversion kits are available for changing from one model to another.
2. Direct replacement models (non-encoder versions) are available for current users of the DP-2000 linear pump. Contact Nordson ASYMTEK for upgrade information.



For more information,  
speak with your local  
representative or contact  
your regional office.

[Nordsonasymtek.com](http://Nordsonasymtek.com)

**North America**

*Headquarters*  
Carlsbad, CA, USA  
+1.760.431.1919  
[info@nordsonasymtek.com](mailto:info@nordsonasymtek.com)

**China**

Shanghai  
+8621.3866.9166  
[info@asymtek.cn](mailto:info@asymtek.cn)

Beijing  
+8610. 8453.6388  
[info@asymtek.cn](mailto:info@asymtek.cn)

Guangzhou  
+8620.8554.0092  
[info@asymtek.cn](mailto:info@asymtek.cn)

**Europe**

Maastricht, Netherlands  
+31. 43.352.4466  
[cs.europe@asymtek.com](mailto:cs.europe@asymtek.com)

**Japan**

Tokyo  
+81.3.5762.2801  
*Info-*  
[jp@nordsonasymtek.com](mailto:jp@nordsonasymtek.com)

**Korea**

Seoul  
+82.31.765.8337  
[info@nordsonasymtek.com](mailto:info@nordsonasymtek.com)

**India**

Chennai  
+91. 44.4353.9024  
[info@nordsonasymtek.com](mailto:info@nordsonasymtek.com)

**S.E. Asia/Australia**

Singapore  
+65.6796.9514  
[info@nordsonasymtek.com](mailto:info@nordsonasymtek.com)

**Taiwan**

+886.229.02.1860  
[info@nordsonasymtek.com](mailto:info@nordsonasymtek.com)

Nordson ASYMTEK  
+1.760.431.1919 **Phone**  
[info@nordsonasymtek.com](mailto:info@nordsonasymtek.com) **Email**  
2747 Loker Avenue West  
Carlsbad, CA USA 92010-6603  
[www.nordsonasymtek.com](http://www.nordsonasymtek.com)

Content Published 2007- 02- 09

Reformatted 2011-04-21

