Imagine a complete solution that ensures high volumetric dispense accuracy for one- and two-component applications. A solution that does not require a third-party control box or productivity-limiting refill cycles. Nordson delivers that solution with the ASYMTEK Vortik family of progressive cavity pumps (PCP). Vortik PCP pumps are fully integrated with our industry-leading dispensing systems and software to deliver repeatable volumetric accuracy without interruption. The solutions are ideal for demanding MEMs, PCBA, electromechanical, packaging, and automotive assembly applications such as bonding, sealing, encapsulation and potting.
Vortik Sets the Standard

- **A fully integrated system solution**
  - complete with process controls — patent pending ASYMTEK Automated Ratio Calibration (ARC™) Technology for two-component applications and Mass Flow Calibration (MFC) that ensures consistently accurate mix ratios by volume or weight.

- **True positive displacement**
  - of a fixed volume with each rotation regardless of ambient temperature conditions or fluid pressure variations.

- **Two-component material dispensing**
  - in various mix ratios — increasing UPH up to 250% over one-component applications.

- **Continuous needle dispensing of one- and two-component fluids with volumetric accuracy of ± 1%**
  - reducing cycle time and increasing reliability and productivity.

- **Supports a wide range of volume deposits from microelectronics to medium and large volume dispensing applications.**

- **Supports a wide range of viscosities**
  - from 1 – 500,000 cps.

- **Optimized fluid break-off**
  - with suckback through reverse rotation of the rotor.
All-in-One Volumetric Dispensing Solutions

1. Dedicated ASYMTEK Fluidmove® software with patent pending ARC™ Technology for two-component applications.

2. A family of Vortik progressive cavity pumps (PCP) for one- and two-component volumetric dispensing.

3. Everything is controlled through one system — eliminating the need for an external control box.
Flowrates

Vortik progressive cavity pumps (PCP) come in three sizes for small volume (VPs), medium volume (VPm) and large volume (VPg) dispensing of one- and two-component materials. Each size features two models with differing rotor sizes that dispense a specific volume per revolution. The Vortik VPs offers the lowest flowrate and smallest depositions possible — 0.2 µl/sec depending on the application — across all PCP pumps available in the market.

The following table shows each of the one-component VPs, VPm and VPg sizes with the corresponding flowrate in microliters per second.
Advanced Two-Component Calibration Assist with ARC™ Technology

At Nordson we focus on next-level technologies and innovation to provide customers with complete solutions. Two-component materials are becoming more desirable today because they offer a lower cost of ownership and greater process flexibility. However, setting up an application to accurately dispense the correct ratio of part A and part B materials can be complicated. Controlling metering and mix ratios is critical to any two-component dispensing application. To fully address this challenge, we’ve added two advanced calibration assist features to streamline the two-component dispensing process – another Nordson first.

Setup in 5 Easy Steps

Take the guesswork out of application setup with Nordson’s unique patent pending ASYMTEK Automated Ratio Calibration (ARC™) Technology and Mass Flow Calibration (MFC) that ensures consistently accurate mix ratios by volume or weight. Quickly determine the optimal speed for the targeted mix ratio and dispense volume without manual calculations or time consuming test iterations.

Enter basic information including the mix ratio method (mass or volume), mix ratio, fluid density and desired material flow rate to complete your application setup in minutes.

Log files provide excellent traceability allowing you to monitor dispensing process data.

Convenient Fluid Management

All two-component Vortik pumps are equipped with a patent pending ASYMTEK Quick Disconnect Manifold that prevents contact between part A and part B materials for easy transition between calibration, production and overnight modes.

The plug blocks fluid flow when the application is not running.
Mobile Device and MEMs

Vortik VPs
Small-Volume Dispensing

Combine the Vortik VPs progressive cavity pump with the ASYMTEK Spectrum® II S2-900 fluid dispensing system to support mobile electronics and MEMS dispensing applications that require high-precision, thin lines, and small volumes.

Applications

- Potting as low as 0.2µl/sec depending on the application
- Thin lines below 250 microns
- Conductive epoxy
- Solder paste with high volumetric accuracy
- Adhesives
With the smallest rotor available on the market today, the Vortik VPs progressive cavity pump delivers the lowest volume flow rates — down to 0.2 microliters per second depending on the application. The Vortik VPs with the Spectrum II S2-900 fluid dispensing system, and Fluidmove software combine to deliver high throughput, world-class precision, automated setup, and closed-loop process control for consistent production quality.

One Component

Two Component

**Flowrate**

<table>
<thead>
<tr>
<th>VPs 2</th>
<th>0.2 – 2.0 µl/s**</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPs 4</td>
<td>2.5 – 22.7 µl/s</td>
</tr>
</tbody>
</table>

**Flowrate**

<table>
<thead>
<tr>
<th>VPs 2-2</th>
<th>0.4 – 3.9 µl/s**</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPs 4-2</td>
<td>3.8 – 5.9 µl/s*</td>
</tr>
<tr>
<td>VPs 4-4</td>
<td>5.0 – 45.3 µl/s</td>
</tr>
</tbody>
</table>

*The VPs 4-2 ratio is 2:1. All other ratios on this page are 1:1.

** The lowest volume output is dependent on the application.
Package Assembly and Automotive

Vortik VPm
Medium-Volume Dispensing

Combine the Vortik VPm progressive cavity pump with the ASYMTEK Quantum® fluid dispensing system to support package assembly and automotive applications. Nordson’s fully integrated Vortik VPm and Quantum solution provides automated setup and closed-loop process control for high-quality results whether you’re updating an existing process or introducing automation for the first time.

Applications

- Bonding
- Sealing
- Encapsulation
- Potting
The Quantum fluid dispensing system with the Vortik VPm progressive cavity pump is a cost-effective solution for applications with mid-range fluid dispensing volumes.

Flowrate*
VPm 5: 2.3 – 21.0 µl/s
VPm 7: 12.8 – 115.5 µl/s
VPm 5-5: 4.5 – 40.8 µl/s
VPm 7-5: 25.6 – 40.8 µl/s
VPm 7-7: 25.6 – 230.4 µl/s

*All ratios are 1:1.
Automotive

Vortik VPg
Large-Volume Dispensing

The number of electronic components in cars has increased sharply in recent years. Vehicles now contain an array of sensitive electronic components that must perform reliably in adverse conditions — exposed to dirt, dust, moisture, and extreme temperatures.

To meet quality and safety standards, it’s important to establish a repeatable and consistent dispensing process to protect parts and prevent damage.

Applications

- Bonding
- Sealing
- Thermal grease
- Encapsulation
- Potting
The ASYMTEK Helios™ SD-960 Series is designed for medium to large volume electronics assembly dispensing applications. Equipped with a fully integrated one- or two-component Vortik VPg progressive cavity pump, the SD-960 is ideal for a range of applications that require larger volume dispensing and high volumetric accuracy.

*All ratios are 1:1.
Why Nordson?
We can help you succeed.

Discover how Nordson’s integrated progressive cavity pump solutions and outstanding global application support can help you optimize your operations.

We’ve earned the confidence of the world’s largest electronics companies to support their high-volume dispensing processes.

Contact us with your specifications, and we’ll get to work on your solution.