

# SOMETHING NEW IS ON THE HORIZON



## ASYMTEK Helios SD-960 Series

The Helios® SD-960 Series offers dependable ruggedization, reliability, structural performance, and thermal management for automotive, 5G infrastructure, industrial, defense and aerospace applications.

You might know us best for our advanced micro-dispensing solutions and in-depth application expertise. We've been there from the beginning — with breakthrough dispensing platforms, jetting, and process controls.

Now our unmatched dispensing technologies are available in a large-volume format. Brimming with functional features, the Helios SD-960 Series delivers the advanced performance you've come to expect. What's more, our solutions include everything you need to initiate your process. Dispense large-volumes of one- (1K) or two-component (2K) structural, thermal, bonding, sealing or potting materials with our all-in-one solutions.

Your local representative has all the details. Contact us today.



# Helios SD-960 Series

## Automation and efficiency:

- Advanced closed-loop process controls ensure consistent, repeatable results
- Ratio validation delivers precise mix ratios and fluid characteristics – enabled through servo-controlled volumetric metering and integrated Mass Flow Calibration for 2K materials (patent pending)
- Fluidmove® software provides unparalleled process control, keeping your process within defined set points, and maintaining traceability
- Fluidmove software makes it easy to update programs and dispense geometries in-house – external supplier assistance not required
- On-board camera system enables programming and fiducial recognition
- In-line and batch configurations provide flexible scalability

## Featured options:

- Rotate and tilt dispensing allows the dispense tip to access four sides of a part, or other areas not accessible with a standard vertical configuration
- Mass Flow Calibration – simplifies setup and ensures the right amount of material is dispensed to each part for an entire production run
- Custom, Automated Optical Inspection (AOI) hardware and software
- Bar code recognition system, 1D or 2D
- Non-contact laser height measurement
- Dual-simultaneous applicator capability
- Dual-toggle applicator capability
- Low fluid sensor
- XYZ needle sensor – automatically corrects for needle offset after a needle or mixer change, eliminating manual recalibration

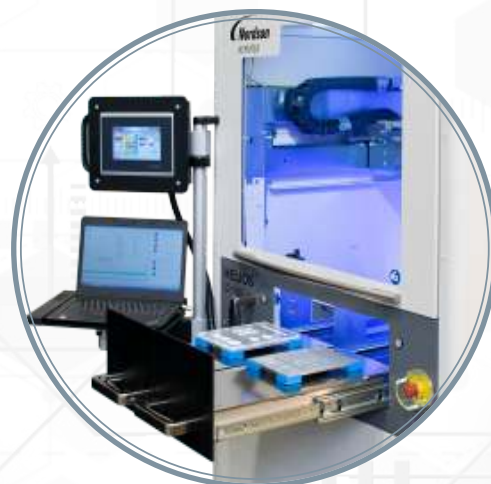




# All-in-One Solutions

The Helios SD-960 Series offers large- and medium-volume, 1K and 2K dispensing solutions complete with pumps, valves, metering systems, process controls and a range of customizable options. The Helios supports line width, dot diameter and volume deposit ranges as shown in the table. If your application requires smaller, micro-dispense capabilities, ask your local representative for alternative dispensing system options.

Dispense Volume	1K and 2K Applications		
	Line Width (e.g. Sealing/Gasketing)	Dot Diameters (e.g. Thermal Paste)	Deposit Volume (e.g. Potting)
Large	> 1 mm	> 1.2 mm	> 1 cc
Medium	0.3 mm – 1 mm	0.4 mm – 1.2 mm	0.3 cc – 1 cc

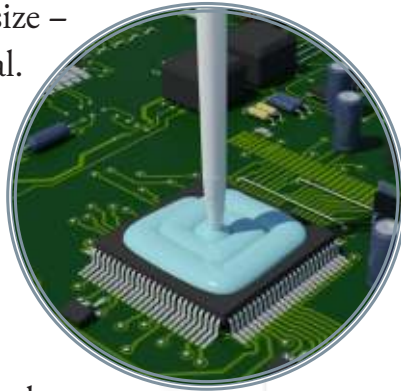


The dual-drawer  
Helios SD-960 Series is ideal  
for batch manufacturing

# Dispense A Variety of Materials

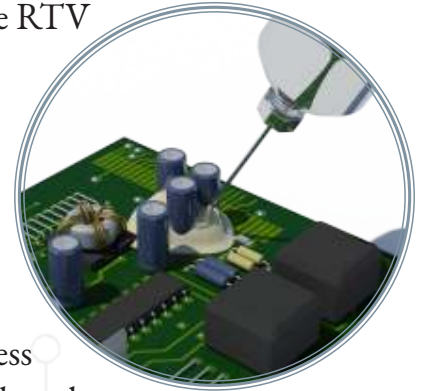
## Thermal Paste

Dispensable thermal materials offer a cost effective, flexible and efficient alternative to thermal pads for high-volume applications. Thermal materials are reliable, easy to apply, and fill gaps of any size – vertical or horizontal. When you consider the effort that goes into designing, ordering, stocking, and applying thermal pads, it's easy to see the thermal material advantages.



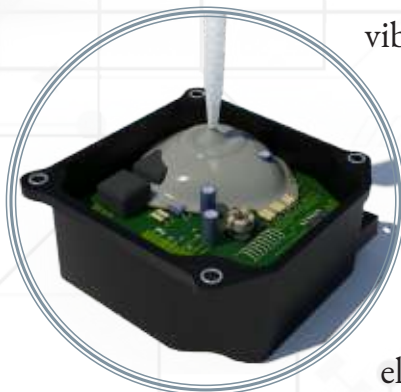
## Structural Adhesives

When a PCB is exposed to shock or vibration, the electrical connections of larger or heavier components experience stress that can lead to failure. To overcome this issue, an adhesive like RTV silicone can be used to bond components and relieve the solder joints from mechanical stress caused by shock and vibration.



## Potting

Potting involves filling a complete electronic assembly with a fluid that cures to a solid for resistance to shock, vibration, moisture and corrosive agents. The Helios can accommodate a range of substrate sizes from sensors to complete electronic assemblies in end-user housings.



## Sealing & Gasketing

A material can be dispensed to form a seal – usually a bead – to provide electromagnetic interference (EMI) shielding protection or to prevent exposure to air, moisture or dust. A sealing application is used to adhere separate parts, and gasketing is used on products that can be disassembled.



# Design Your Complete Solution

## Dispensing Platform

## Fluid Supply

## Metering System

## Valves, Static Mixers, and Needles



The Helios SD-960 Series is an automated dispense platform that deposits medium- and large-volumes of material.

The platform is ideal for 1K and 2K applications — thermal paste, structural adhesives, sealing, gasketing, and potting — that require enhanced throughput and advanced process control.

Fluidmove system software provides unparalleled process control and programming capabilities. The system camera and height sensor support post-dispensing commands to check dispense results, without the need for additional hardware. If more detailed inspection is necessary, the platform can be configured with an inspection system.

A hose enclosure is also available to provide vertical clearance for remote bulk-feed hoses, valves, and mixers.

The fluid supply transports fluids from supplier packaging — of various types and sizes — to the metering system.

The Helios supports fluid packages as small as 6 oz. syringes and as large as 55-gallon drums.

Fluid supply systems can be customized with different reservoir sizes, fluid regulators, booster pumps, heavy-duty pail unloaders, drum unloaders, agitation and degassing options, level sensors, and more to handle a range of fluid characteristics and application requirements.

The metering system delivers fluid to the dispense valve while controlling volume and ratio.

A variety of metering options are available including time-pressure valves, auger pumps, closed-loop process controls, progressive cavity pumps, and servo-controlled positive rod displacement systems.

If true volumetric accuracy is critical for your application, progressive cavity pumps and positive rod displacement systems are ideal choices. These dispense technologies also cover a wide range of dispense volumes.

A selection of valves, mixers and needles are available to meet your application requirements.

Low- to high-viscosity fluids — such as masking materials, RTV silicones, pastes, gap fillers and more — can be accommodated with a range of valve types including carbide ball-in-seat for abrasive materials and spool with suckback for improved fluid break-off.

Depending on your application, a static mixer or needle will be paired with the valve.

Bayonet and bell type static mixers are available in a several lengths for 2K applications and a full range polyethylene and metal needles are available for 1K applications.

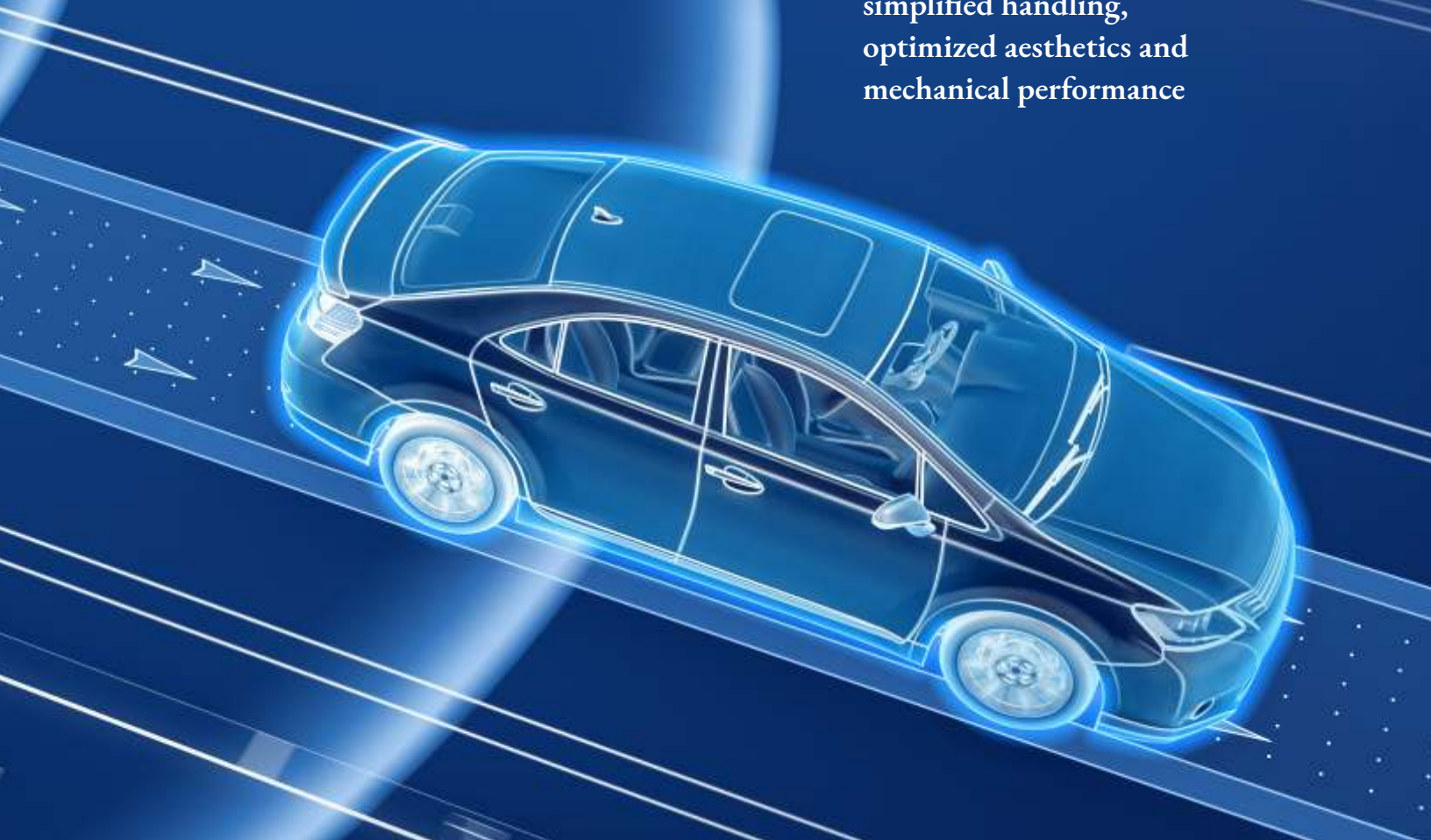


# Automotive

It's not an exaggeration to say that cars are becoming IoT devices. Today's drivers rely on service notifications, backup cameras and parking sensors. Some systems provide collision avoidance, adaptive cruise control and emergency braking. With sensors in nearly every area — engine control units (ECUs), lighting electronics, powertrain, driver assistance, infotainment, and luxury features — manufacturers have come to rely on fluid dispensing applications that provide a barrier between sensitive electronics and harsh operating environments.

Important areas of focus include:

- Protecting electronics from harmful influences such as moisture, extreme temperatures or corrosive substances that affect performance
- Ensuring reliability
- Providing ruggedization
- Addressing thermodynamic challenges
- Replacing welds, rivets, and bolts with light-weight adhesives for cost reduction, simplified handling, optimized aesthetics and mechanical performance



# Automotive Applications

Design a 1K or 2K Helios solution to address:

- **Thermal paste dispensing** – An efficient alternative to thermal pads, 1K and 2K pastes can be dispensed to accommodate every gap dimension – vertical or horizontal with a high level of control
- **Adhesive bonding** – For covers and housings, automotive body, vehicle interior elements and more
- **Sealing** – For bonding and protecting housings, ECUs, enclosures, transmissions, gearboxes, sensors and more
- **Potting** – For the encapsulation of batteries, chips and sensors, wired circuit boards, power modules, ECUs, transmissions, steering and driving assist systems, and to protect intellectual property

Highlights and configuration suggestions:

- Volumetric metering with integrated Mass Flow Calibration for 2K materials ensures precise mix ratios and fluid characteristics
- Valves perform well with highly-filled, abrasive thermal interface material
- Dual-drawer for batch manufacturing
- Vortik<sup>®</sup> progressive cavity pump
- Bubble-free application of potting material with process control
- High precision and consistent mixing of thermal materials
- Supports a wide range of fluid viscosities from high to low

## Process Consideration

Automotive and other high reliability applications require critical inspection and automotive component testing to ensure safety for consumers. The addition of Automated Optical Inspection (AOI) and closed-loop process controls provides traceability and process data for effective defect detection and yield improvement.

# 5G Infrastructure and IoT

Carriers and telecommunications companies across the globe are working quickly to build new base stations and antenna arrays to support 5G services. Macro, micro, and picocell base stations are needed to cover wide, densely populated, and localized areas. Massive MIMO (multiple input, multiple output) antennas with large numbers of antenna elements are also needed to send and receive more data simultaneously. And that's just the beginning.

As 5G technology matures, businesses and consumers alike will benefit. Manufacturing's Industry 4.0, smart cities, smart energy, connected health, and IoT will all be enabled by 5G technology.

Important areas of focus include:

- Protecting electronics from harmful influences such as moisture, extreme temperatures or corrosive substances that affect performance
- Ensuring reliability
- Addressing thermodynamic challenges
- Replacing welds, rivets, and bolts with light-weight adhesives for cost reduction, simplified handling, and optimized mechanical performance





## 5G and IoT Applications

Design a 1K or 2K Helios solution to address:

- **Thermal paste dispensing** – An efficient alternative to thermal pads, 1K and 2K pastes can be dispensed to accommodate every gap dimension – vertical or horizontal with a high level of control
- **Adhesive bonding** – For case and package assembly
- **Sealing** – For case and package assembly, form-in-place gaskets, electro-mechanical assemblies, and protection from harmful elements
- **Potting** – To protect intellectual property and for the encapsulation of batteries, chips, and sensors
- **Structural adhesive/staking** – To protect electronics from damage related to shock and vibration

Highlights and configuration suggestions:

- Dual-valve dispensing
- Valves perform well with highly-filled, abrasive thermal interface material
- Rotate and tilt dispensing
- Vortik® progressive cavity pump
- Volumetric metering with integrated Mass Flow Calibration for 2K materials — ensures precise mix ratios and fluid characteristics
- High precision and consistent mixing of thermal materials
- Supports a wide range of fluid viscosities from high to low

### Process Consideration

Integrate dispense data into your manufacturing execution system (MES) to optimize production. ASYMTEK API architecture is included in Fluidmove dispensing software and can be activated through an optional Connectivity Kit License. When activated, the API can be customized with controls, elements and commands that pass process information from the Helios SD-960 Series to your MES system.

# Industrial, Aerospace and Defense

Aerospace and defense electronics must be broadly suited for harsh environments. In these areas, electronic components are exposed to land, sea, atmosphere and space. Components must be ruggedized to withstand high shock and vibration and extreme temperatures, altitudes, and relative humidity. Dispensing applications are found in position control systems, radar antennas, fire control systems, precision aviation systems, manned and unmanned spacecraft controls, and commercial aerospace.

Industrial electronics are focused around electrical equipment, tools and processes in an industrial setting. Examples include automotive plants, power plants, oil/gas/petroleum plants, mining and metal processing, and electronics and semiconductor manufacturing. As with aerospace and defense applications, electronics in industrial applications must withstand extreme conditions.

Important areas of focus include:

- Providing ruggedization
- Ensuring reliability
- Protecting electronics from harmful influences such as moisture, extreme temperatures or corrosive substances that affect performance
- Addressing thermodynamic challenges



# Industrial, Aerospace and Defense Applications

Design a 1K or 2K Helios solution to address:

- **Thermal paste dispensing** – Both 1K and 2K pastes can be dispensed to parts with a high level of control to facilitate heat dissipation
- **Adhesive bonding** – For covers and housings
- **Sealing** – For bonding and ruggedizing housings and enclosures
- **Potting** – To protect intellectual property and for the encapsulation of batteries, chips and sensors, wired circuit boards, and power modules
- **Structural adhesive/staking** – To protect electronics from damage related to shock and vibration

Highlights and configuration suggestions:

- Dual-drawer for batch manufacturing
- Valves perform well with highly-filled, abrasive thermal interface material
- Rotate and tilt dispensing
- Vortik<sup>®</sup> progressive cavity pump
- Volumetric metering with integrated Mass Flow Calibration for 2K materials — ensures precise mix ratios and fluid characteristics
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- Supports a wide range of fluid viscosities from high to low

## Process Consideration

Good adhesion is required for durability and effective performance of liquid seals. If a seal loses adhesion, dirt and moisture can affect performance. To ensure good surface adhesion, apply plasma treatment to parts before dispensing the sealing material. Nordson Electronics Solutions offers plasma treatment options. Contact your local representative or regional office for information.



# Our Customer Passion Shines

Who you buy from can be just as important as what you buy. At Nordson quality and service come first. We expect more from ourselves than our customers do, and you can count on us to be there anytime you need support.

# Since 1954



# We Rise Above the Competition

**Regional, in-person or remote service and support**

**Convenient access to spares**

**Training opportunities**

**Applications engineering support**

**Engineering customization support**

“Our engineering teams design and build equipment that provides great value to our customers. These talented teams use state-of-the-art design methods and tools, including best-in-class reliability modeling and test equipment. We know that we are only successful when our customers are successful.”

— Alan Lewis, Senior Manager  
Technology Pathfinding.

“We are well known for providing expert level application support and developing solutions that solve customer challenges. I am so proud to be part of this talented worldwide technical team. Our outstanding applications expertise and support are what make us so successful.”

— Heakyoung Park, Applications  
Engineering Manager.

# WHY NORDSON ELECTRONICS SOLUTIONS?

Discover how Nordson's integrated 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.

We can help you succeed.

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

For more information, visit our website to find your local regional office or representative. We have several global locations to serve you.

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ELECTRONICS SOLUTIONS