



PROVEN QUALITY. LEADING TECHNOLOGY.

# 

The ONLY single-source, turnkey automated fluid dispense solution – from the recognized global leader in fluid handling.

ONE SOURCE. ONE PARTNER. ONE SOLUTION.

Graco has been setting the worldwide standard for fluid management technology since 1926. You may not know it, but we pump the ink into your currency, fill the oil into your car, spray the coating on your pills and have even sprayed the paint on the White House and the stripes on the field at Wembley Stadium in London, England. Our proven technologies put our customers at ease because they know the job will be done right every time.

Following in the Graco tradition of engineering excellence, UniXact delivers automated, high-precision fluid dispensing of a myriad of materials – specializing in the tough-to-handle jobs, including TIM and 2K.



# One Source. One Partner.

UniXact is the ONLY fully-integrated automated dispense solution where all of the components are developed and supported by ONE worldwide source — Graco. We are the fluid handling experts.

We are fueled by challenge and solve problems where others have failed. For over 90 years, Graco has consistently met the challenges that come with moving highly viscous, tough-to-move materials, including highly abrasive substances. Our expert engineers are committed to working with you to find the right solution to fit your business needs.

Global Presence. Global Support. With facilities located in Europe, Asia Pacific and the United States, Graco provides a personalized, end-to-end partnership experience that includes solution planning, testing and refining of your solution in our regional labs to ultimately overseeing the product installation process. After installation, you'll receive 24/7 in-person support from our worldwide distribution network.









We're committed to finding you the right solution.



# One Solution

A fully-automated precision fluid dispense system has never been easier to use. Typically, automated dispense "solutions" cobble together disparate products from multiple suppliers - resulting in lengthy delays and decreased profitability should a problem occur. The UniXact precision dispensing unit is the ONLY end-to-end solution that utilizes all Graco products, XYZ motion and Graco proprietary software.

**RELIABILITY** Consistent dispensing - every time. Only UniXact includes the proven

Graco fluid dispense technologies to streamline your process.

**SIMPLICITY** Easy for non-technical operators. Our proprietary software includes an

intuitive user interface that provides simple set-up and operation.

**PRECISION** Tackle the tough jobs. Only UniXact includes the rugged equipment

designed to facilitate fast, accurate dispense of tough-to-move materials.



**UniXact C300** 



**UniXact C500** 

Improve throughput. Eliminate risk.

# Solution focused.

With our proven process, you can be as involved as you want to be - hands-on, hands-off, or anywhere in between. Either way, we will dig in and manage your entire project - from requirements gathering through guiding the final product installation. Your solution will be **designed** with your process in mind, **developed** with your input and tested in our lab facilities.

# Our integrated process



UNDERSTAND APPLICATION, DESIRED OUTPUT + CURRENT PROCESSES



COLLABORATIVE IDEATION + DESIGN



TESTING, MODIFYING + RETESTING IN OUR LAB



DATA ANALYSIS + PROOF OF CONCEPT



INSTALLATION + INTEGRATION INTO YOUR FACILITY



WE'RE AVAILABLE WHEN YOU NEED US + PROACTIVE TO KEEP YOUR PROCESS MOVING



We're committed to make your experience effortless.

# UniXact product capabilities

The UniXact platform is scalable to meet the unique specifications of your fluid dispensing processes. The Graco UniXact solution features a Cartesian robot that moves the dispense valve relative to the part through XYZ space.

### **Supply System**

Easily manage tough-to-move materials

#### **Software**

Intuitive user interface for non-technical operators

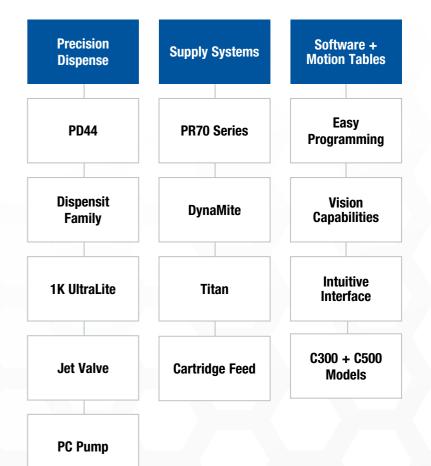
### **Precision Dispense**

Unmatched accuracy delivered through proven Graco technology

#### **Motion Tables**

Unlimited customization through XYZ motion





**PosiMixer** 





#### **1K Applicators**

#### • 710/715 Valves

- Continuous bead
- For low viscosity
- Rapid on/off cycling without reload time
- Optional snuff-back

#### 802/902 Valves

- Positive displacement pinch tube
- Low viscosity dot-to-dot application
- 0.0013 0.4854cc/shot
- Optional snuff-back

#### • 1053/1093 Valves

- 1K positive displacement valve
- 0.002cc 14.5cc/shot

#### Micromelt 1053 Valve

- 1K positive displacement valve with two-zone heating
- 0.002cc 3.6cc/shot

#### 1K Ultralite

- Continuous bead
- For mid to high viscosity material

#### AMV

- Automatic Mixing Valve
- Air-operated single acting metered shot valve
- 0.2cc 4.0cc/shot

#### Jet Valve

- Non contact jet
- 300 drops/sec; 10nl/drop
- Max viscosity 400k cps
- ONLY 2 parts contact the fluid

#### Heated Jet Valve

- Apply PUR up to 200Hz
- Two-zone heating
- High speed sub-500 micron lines
- ONLY 2 parts contact the fluid

#### PC Pump

- Continuous bead
- Meter valve
- Flow rate range0.01cc 1600cc/min

#### 1206 Valve

- Low volume metered shot valve
- Single or multiple dots
- 0.001cc 0.254cc/shot

#### **2K Applicators**

#### PD44 Valve

- 2K positive displacement valve
- Mix range 1:1 25:1
- 0.005cc 5cc/shot
- External mixing, easy to clean

#### MD2 Valve

- 2K metering system
- Mix range 1:1 24:1
- 2cc 70cc/shot
- Flexible configuration to meet different applications













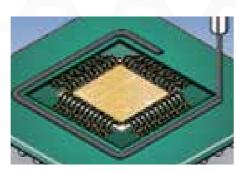
# **PCB Printed Circuit Board**





#### **Pin Protection**

- 710 Valve
- 715 Valve
- PC Pump



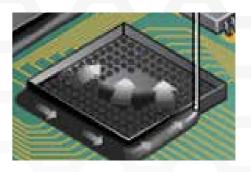
#### Encapsulation

- MD2 Valve
- PR70



#### **Thermal Management**

- PC Pump
- PD44
- 1K Ultralite



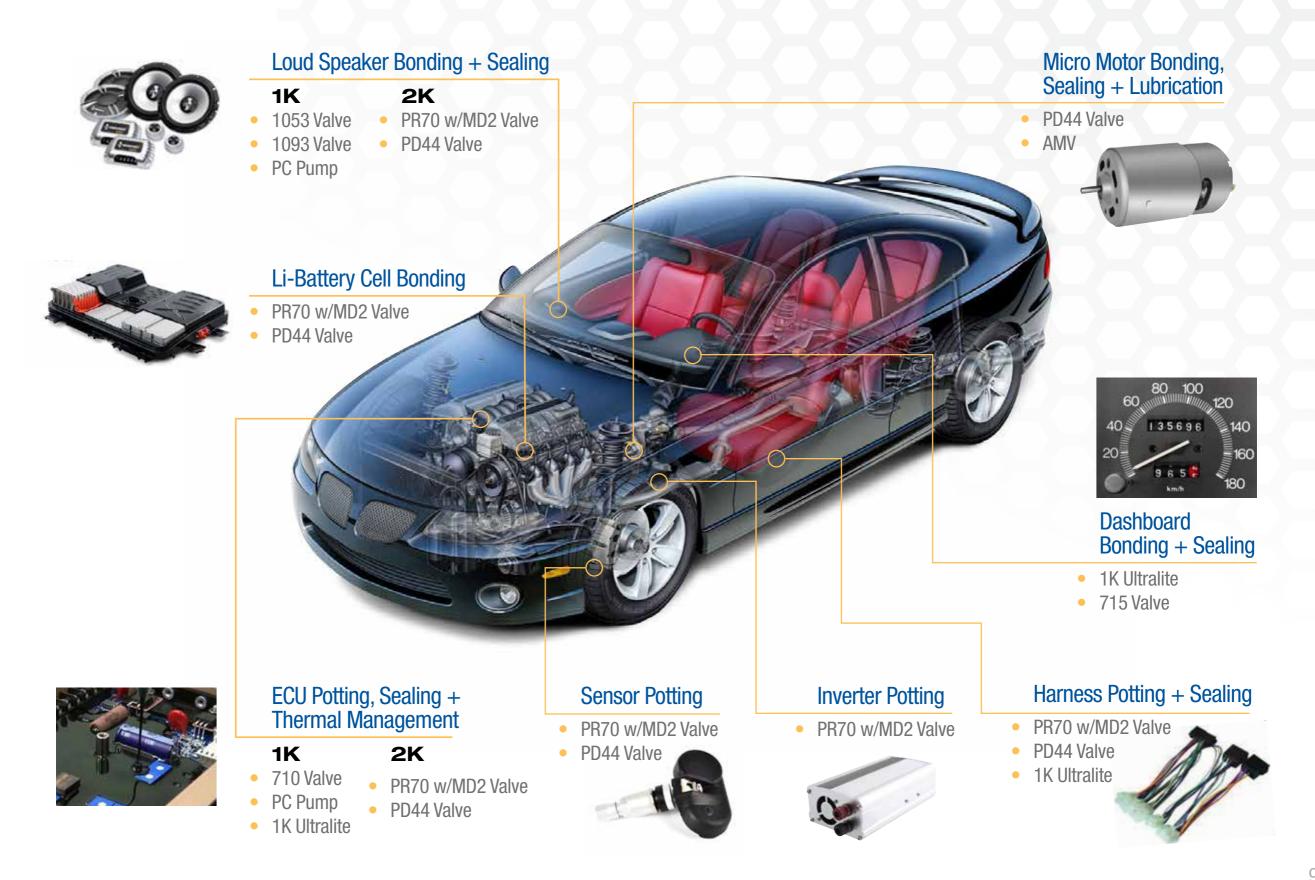
#### Underfill

- 710 Valve
- PC Pump
- Jet Valve



# **Automotive Electronics**





# Mobile Phone



#### **Loud Speaker Bonding**

- 1053 Valve
- Jet Valve
- PC Pump

#### Frame Bonding

- 1053 Valve
- Jet Valve
- PD44 Valve

#### **Finger Print Button Bonding**

- 1K Ultralite
- PD44 Valve





• 1053 Valve

# Other Electronics





PD44 Valve

#### Thermal Management

- 1K Ultralite
- PC Pump

#### Sealing + Gasketing

- 710 Valve
- 1053 Valve
- PC Pump
- PD44 Valve

Portable Hard Drive



Ear phones

#### Controller/Film/Loud Speaker Bonding

- Jet Valve
- PC Pump
- PD44 Valve





# Supply Systems

#### Titan 200

- 1K feed system
- Designed for 20 oz.
   or 300 ml cartridge
- Ability to handle high viscosity and/or abrasive materials





#### DynaMite 190

- 1K feed system
- Designed for 1 gal or 1 liter pail
- Ability to handle high viscosity and/or abrasive materials

#### **Liquid Silicone Rubber**

- 2K LSR feed system
- Designed for 20 liter pail
- High precision 3rd stream color injection capability
- Meter and mix function are included





#### Thermo-Flow 20

- 1K hot melt feed system
- Designed for 20 liter pail
- On-demand melting technology minimize the material degrade

#### **20L Supply System**

- 1K feed system
- Designed for 20 liter pail
- Flexible configuration for diverse material and viscosity range



# 710/715 Valve

Designed to accurately dispense beads of single-component materials such as silicones and epoxies for sealing, bonding and gasketing applications.

### **Key Features:**

- Dispenses a range of material viscosities and flow rates
- Offers continuous bead dispensing or rapid on/off cycling without reload time
- High-feed pressure-rated needle valve design provides higher flow rates even for narrow bead profiles
- Snuff-back versions for precise, consistent dispensing
- Simple on/off control via integration to UniXact C-Series platform





# 802/902 Valves



Positive displacement pinch tube valve for bead dispense. Accepts several sizes of pinch tubes to attain the desired volumetric output.

#### **Key Features:**

- For low to medium viscosity materials that are abrasive, corrosive or cure quickly
- Ideal for applications requiring precise, high-speed, dot-to-dot dispensing
- Wetted parts of pinch tubes and syringes are replaceable providing fast clean-up to minimize need for solvent purging or disposal
- Various pinch tube material configurations are available for material compatibility and varying dispense volumes
- Remote or syringe feed configurations provide positive feed pressure using regulated air supply



# 1052/1092 + 1053/1093 Valves

Positive displacement valves designed for volumetric shot-to-shot (1052/1092) or bead (1053/1093) dispensing of a wide variety of materials.

### **Key Features:**

- For low to high viscosity materials with various wetted component configurations to handle abrasive filled or corrosive materials
- 1052/1092 valves are pneumatically-controlled valves with micrometer adjustable dispense volumes for accurate, repeatable shot dispensing
- 1053/1093 valves are servo-driven valves for programmable, precise shot or bead dispensing
- Pneumatic and electronic controls can be integrated for automated applications
- Selection dependent upon desired volume and desired accuracy





# Micromelt 1053 Valve



The Graco MicroMelt 1053 is the heated version of the positive displacement 1053 valve.

#### **Key Features:**

- Minimizes maintenance time and costs while maximizing dispense time
- Designed with fewer parts and is easy to clean
- Streamlines maintenance and service
- Complete modular design adapts to different installation needs
- No unique tools required
- Handles a wide range of materials

# 1K Ultra-Lite Valve



The Graco 1K Ultra-Lite valves are top-of-the-line, lightweight valves designed for long service in a multitude of bead dispense applications.

### **Key Features:**

- Manual and automatic versions available
- Lubricated packings for longer seal life
- Severe-Duty needle and seat
- Eliminates snake-head and material drip
- Adjustable forward travel to reduce material surge





# **Automatic Metering Valve**





The Graco Automatic Metering Valve (AMV) provides accurate dispensing on a repetitive basis and is the solution when you need to deposit a precise amount of adhesive.

### **Key Features:**

- Air-operated, single-acting metered shot valve
- Dispenses up to 60 shots per minute or more
- Change shot size (0.2 4.0cc) quickly and easily
- Special snuffer action prevents dripping
- Numerous models to select from



# Jet Valve

The Graco Jetting Valve is non-contact jet dispenser designed to handle a wide range of fluids and applications.

### **Key Features:**

- Up to 300 drops/sec with outstanding repeatability
- Drops as small as 10nL
- Low to medium viscosities, handling materials up to 400,000 centipoise
- Minimal wear parts and maintenance
   no fluid seals to clean or replace
- Heavy duty internal components, made from tungsten carbide, to provide for long life
- Minimal material waste for priming and heating the pump.
- Heater built into nozzle plate





# Heated Jet Valve



The Graco heated jet valve is a non-contact jet dispense valve designed to apply PUR at speeds up to 200Hz

### **Key Features:**

- Holt melt dispensing with dual heat zones, optimizing performance and maximizing material life
- Line widths down to 400 um
- Disposable fluid path for quick and easy cleaning
- Visual fluid level



# **Progressive Cavity Pump**

The Graco Progressive Cavity pump is a positive displacement valve that is ideal for moving medium to high viscosity materials that are filled with abrasive compounds.

### **Key Features:**

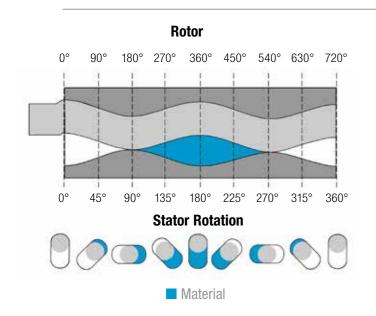
- Consists of a rotor and stator that create sealed cavities for continuous, volumetric dispense
- High repeatability, +/- 1% over entire material pot life
- Wide range of adjustable flow rates
- Wear resistant and low maintenance
- Solves time/pressure challenges

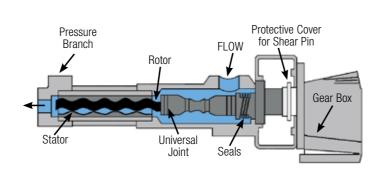


# **Progressive Cavity Pump**

**CLOSER LOOK** 

#### **HOW IT WORKS**







Size	Displacement (cc/rev)	Min Speed (RPM)	Max Speed (RPM)	Min Flow (cc/sec)	Max Flow (cc/sec)	Min Flow (cc/min)	Max Flow (cc/min)	Max Inlet Pressure (PSI)	Max Operating Pressure (PSI)
1	0.01	1	150	0.000	0.03	0.01	1.5	87	145
1	0.05	1	150	0.001	0.13	0.05	7.5	87	145
1	0.15	1	150	0.003	0.38	0.15	22.5	87	145
2	0.30	1	400	0.005	2.00	0.30	120.0	116	290
2	1.00	1	400	0.017	6.67	1.00	400.0	116	290
2	2.00	1	400	0.033	13.33	2.00	800.0	116	290
3	4.00	1	400	0.067	26.67	4.00	1600.0	116	290

<sup>\*\*</sup>All specification and rates are subject to change based on material and application settings.



# 1206 Valve



The Graco Dispensit 1206 valve is a positive displacement metering rod valve for precision dispensing of one component materials.

### **Key Features:**

- Positive displacement metering
- Calibrated stroke adjustment
- Repeatable shot-to-shot volumetric displacement
- Accurate and resettable shot size selection
- Positive material shutoff



# PD44 Valve

2K meter mix with point of dispense to handle small amounts of fast curing materials from water thin to paste viscosity materials ranging from 0.005cc's to 5cc's. Metering rods are matched with machined seals for improved seal life.

### **Key Features:**

- Specifically designed to accurately dispense shots of two-component epoxies, urethanes, silicone and most reactive resin systems
- Innovative low viscosity spool design
- Rod positive displacement metering
- Precise mix ratio and shot repeatability
- Eliminates cleaning and potential hardening of materials in the valve





# MD2 Valve



The Graco MD2 valve is a two-component valve intended for use with the PR70 or HFR system, designed to accurately dispense and mix plural-component sealants and adhesives.

### **Key Features:**

- Minimizes maintenance time and costs
- Micro dispensing for 2K materials
- Simple design with fewer parts allows easier cleaning
- Streamlines maintenance and service increasing uptime
- Modular design adapts to different installation needs
- Compatible with standard tool configurations
- Handles a wide range of materials



# Valve Matrix Single Component Valves



### **Single Component Valves**

Model	710 & 715	1206	1053 & 1093	1053 Micromelt	Progressive Cavity Pump	Jetting Valve	AMV	802 & 902	1K Ultra- Lite
Description	On/off valve	Low volume metered shot valve	Programmable positive displacement metering rod dispense valve	Programmable hot melt adhesive dispenser based on 1053	Positive displacement, continuous, volumetric dispense	Non contact jet dispenser for small volumes at high speed	Air-operated, single- acting metered shot valve	Positive displacement pinch tube valve for bead dispense	Continuous flow valve
Application	Continuous bead dispensing; rapid on/off cycling without reload time	Dots (dispensing lubricants, bonding, sealing)	Beads and dots (dispensing lubricants, bonding, sealing, fipg - form in place gasket)	Beads and dots for Hotmelt or other heated materials	Continuous beads; dots and fill applications	High speed dots for UV cure, adhesives, underfill	Precision dispense of adhesives and other fluids	Multitude of bead dispense applications	Multitude of bead dispense applications
Vol Output	Continuous	0.001cc254cc	0.002cc - 14.8cc	0.002cc - 3.6cc	0.001cc - 26.67cc/sec	10 nL drops and up	0.2cc - 4.0cc	0.0013c - 0.4854cc	Continuous
Viscosity	Low to High	Low to High	Low to High	Low to High	Medium to High	Low to Medium	Low to High	_	Low to High
Weight	0.5 kg (1.0 lbs)	0.5 kg (1.0 lbs)	4.3 kg (9.5 lbs) 1.6-2.2 kg (3.0-4.8 lbs)	6.2 kg (13.6 lbs)	1.9 kg (4.1 lbs)	0.4 kg (0.8 lbs)	0.7 kg (1.4 lbs)	0.3 kg (0.6 lbs) 0.7 kg (1.5 lbs)	0.9 kg (2.1 lbs)
Unique Selling Proposition	Time pressure valve; continuous dispense without reload	Able to apply precise dots with high volumetric consistency	Application of precise beads as low as 0.5mm in diameter	Application of precise beads as low as 0.5mm in diameter	Continuous, volumetric dispense with wide range of flow rates. Can handle highly abrasive materials	High speed, low maintenance, wide range of dispense volume with high repeatability	Accurate dispensing on a repetitive basis, up to 60 shots per minute or more	Positive displacement pinch tube dispense valve; output controlled by size of pinch tubes	Lightweight, continuous flow valve line for a multitude of materials. Aluminum or SST option

NOTE: Refer to www.graco.com and other published literature for full valve offerings and features. The preceding pages and matrix above are the most commonly used valves in the UniXact platform, but Graco offers many other valves that can and will meet your production needs.

# Valve Matrix Two Component Valves



### **Two Component Valves**

PD-44	MD2			
Rod displacement metering • Pneumatic or electric drive	Pneumatically actuated, 2 component valve with static mixer			
Electronic potting, bonding & gasketing	Small to midsize electronic potting, bonding & gasketing			
0.005 - 5.0cc's	2.0 - 70.0cc's (PR70)			
Ratio dependent (Fixed only, 1:1 – 25:1)	Ratio dependent (Fixed or variable, 1:1 – 24:1)			
Low to High	Low to High			
6.8 kg (15 lbs)	0.7 kg (1.5 lbs)			
Precision small shots & beads; Process monitoring	Keeps the "A" and "B" components separate until they are inside the mixer.  Adjustable snuffback action.			





NOTE: Refer to www.graco.com and other published literature for full valve offerings and features. The preceding pages and matrix above are the most commonly used valves in the UniXact platform, but Graco offers many other valves that can and will meet your production needs.

# The PR70 Series\*

Meter, Mix and Dispense Accuracy for Two-Component Material



### **Key Features:**

- PR70
   The industry benchmark in tabletop fixed-ratio dispensing
- PR70e
   Economy for basic, straightforward applications
- PR70v

  Precision for applications requiring variable ratios from 1:1 to 24:1
- PR70f
   Bead application with built-in flow control
- PR70s
   When bead uniformity and dispense precision are critical



<sup>\*</sup> Easily integrated into the C-Series platform.

### **PR70 Features Comparison**



		PR70e	PR70 Standard Display	PR70 Advanced Display	PR70v	PR70f	PR70s Servo
Ratios	Fixed Ratio Variable Ratio	1:1 to 12:1 NA	1:1 to 12:1 NA	1:1 to 12:1 NA	NA 1:1 to 24:1	1:1 to 12:1 1:1 to 24:1	1:1 to 12:1 1:1 to 24:1
Shots	Number of shots Multiple fills per shot Multiple shot sizes per sequence	1 No No	5 Yes Optional	50 Yes Yes	50 Yes Yes	50 Yes Yes	10 Yes No
Monitoring	Pressure Monitoring Ratio Monitoring	No No	Optional Optional	Optional Optional	Optional Optional	Optional Optional	Optional No
Data Controls	Local Control Module (LCM) Display Module (DM) Advanced Display Module (ADM) Gel Timer Run with Automation (PLC) USB Download Light Tower	Yes No No No No No	No Yes Optional Yes Yes Optional No	No No Yes Yes Yes Optional	No No Yes Yes Yes Optional	No No Yes Yes Yes Optional	No No No Yes Yes Optional Optional
Flow Control	Flow Control Flow Range* PLC Flow Selections Bead Control Snake-Head Control Pump Re-Loading Capability Bead/Dispense Pausing Remote Analog Flow Control	No N/A N/A No No No No	No N/A N/A No No No No	No N/A N/A No No No No	No N/A N/A No No No No	Yes 0.014-226 15 Yes Yes Yes Yes No	Yes 0-47 Infinite Yes Yes Yes Yes Yes Yes

<sup>\*</sup> Flow ranges are in cc/second. Be sure to choose proper pump sizes to achieve desired flow rate.



# DynaMite 190 Extruder Pump



### **Key Features:**

- Transfers viscous material from its original
   0.95 liter (1 quart) or 3.79 liter (1 gallon) source
- Single acting pump
- Air driven with 12:1 power factor
- Stainless steel construction
- 5cc per stroke displacement
- Compact and lightweight
- Highly precise fluid delivery
- Built tough for rugged delivery



# Titan DMS



### **Key Features:**

- Cartridge retainer and pressure feed
- Recommended for 20 ounce cartridges; custom available
- Air driven with 2x power factor
- Output dependent on cartridge size







# Software Solutions

"The user interface is very easy to learn and use."

Large electronics provider

#### **Key Features**

Easy Programming - Vision programming,
 DXF upload, teach pendant, touch screen

#### **Off-line Programming**

- Don't need to shut down production to prepare at the machine
- Can program and send globally program at HQ + send to worldwide sites

#### **Vision**

- Vision Programming easily locate + prepare dispense points using crosshair camera
- 2D Vision Skew Automatically dispense precisely where you want – even if the part is slightly skewed

#### **Touchless Height Sensing**

 Laser Height Sensor – automatically calibrates needle height for accurate dispense

# **Statistical Process Control (SPC)**

 Data capture and storage for data analysis + predictive maintenance



# **Motion Tables**



#### **Built to dispense**

With competitive units, dispense is secondary

#### **Heavy payload**

Designed to carry heavy valves like the PC Pump + PD44

#### **Programmable Z axis**

#### **3D** contouring

# Real-time process monitoring + data storage

#### **Easy maintenance**

Fewer moving parts and complicated solutions



# **Product Specifications**

Our base platforms are the C300 and C500 size machines, offering  $300 \times 300$  and  $500 \times 500$ mm workspaces, respectively. Both sizes offer custom configurations and scalable designs to meet complicated manufacturing requirements.





Dispense valve integration package already included
Other sizes available via custom order

Model	C300	C500			
Description & Selling Prop.	ription & Selling Prop.  Heavy duty 3D contour XYZ Cartesian System  15kg+ payload, windows based robotic point to point dispensing work cell				
Overall Dimensions (H-W-D)	1905 mm x 939 mm x 1041 mm (75 in x 37 in x 41 in) 2,000 mm x 1,200 mm x 1,200 mm (79 in x 47 in x 47				
Work Envelope (X-Y-Z)	254 mm x 277 mm x 70 mm (10 in x 11 in x 2.75 in)	500 mm x 500 mm x 150 mm (20 in x 20 in x 6 in)			
Drive Method	Ball screw drives with linear guide bearings				
Drive System	Servo drive motors for	X, Y, Z and theta (dispense)			
Point to Point Speed	200 mm/s (8 in/s)				
Position Repeatability	0.01 mm (0.0004 in)				
Accuracy	+/- 0.1 mm/300 mm (+/- 0.004 in/12 in)				
Dispense Speed	100 mm/s (4 in/s)				
Interface	Touch screen interface, Graco proprietary software supported by Windows 10.				
Programming Methods	4 Methods: Vision crosshairs, DXF Upload, Intuitive icon based touch screen, Teach pendant				
Off-line programming	No need to stop production, able to program at central location & send to worldwide sites				
Preprogammed Patterns	Lines, circles, arcs, splines, spiral fill (circle and square), dots, beads				
Program Storage	20 programs on board; 1,000's in PC				
Add on Table Options	Part in place sensor • Needle Calibration • Needle Blowoff • Door (C300 only) or Light Curtain Customizable load/unload - Y slides • Vision programming and vision skew • Laser height sensing				

### **Graco Has You Covered**

**Facilities Worldwide for Global Support** 



#### **Quality First**

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At Graco we pride ourselves on providing best-in-class products. Engineered solutions are manufactured in our own facilities, with the highest standards in the industry. We provide you with world-class customer support and expertise to help solve your fluid management challenges.

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#### **Global Reach**

Graco has facilities across the globe to provide you with the products and service *you* need, where *you* live. Plus, Graco has dedicated field experts in all areas of the world to support the products we sell.



#### **Product Capabilities**

Graco has a broad range of products to provide solutions that meet your needs. Our products are engineered and tested to perform in the harshest environments so you can be certain your equipment is protected and working at peak performance.

#### Contact us today!

Call **800-746-1334** to speak with a Graco representative, or visit **www.graco.com/UniXact** for more information.

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