

## **Solutions for Sealant and Adhesives Applications**

## ABOUT GRACO

Since 1926 Graco is considered as a quality brand name for fluid handling equipment. Throughout the years we have always taken great pride in making pumps and systems that create an added value for your sealing or bonding application.

Whatever the application, you can always rely on Graco to provide you with the best solution possible. Whether it's a product right of the shelf or a system personally configured to fit your needs.

We are proud to say that thanks to our dedication, passion and quality we provide solutions for some of the biggest companies in different markets such as: automotive, transportation, white goods, glass, and many more ...



## INNOVATION IS IN OUR BLOOD

To guarantee superior quality and to meet every market's changing requirements, we prioritize the investment of human and financial resources in research and development.

Every day, over 440 engineers perform research, product and process development. Innovative technologies and extensive field testing are a natural part of our process to develop new products.

Every aspect of our production is subject to constant testing and evaluation. It's the foundation from which we deliver products with long service life and low cost of ownership. This insures you that our product will help you grow your business.

## WORLDWIDE SUPPORT

As a global company with multiple divisions mastering different fluid-handling applications, we have available resources worldwide. Over 3300 distribution partners offer local service & support in more than 100 countries.

As experts in the markets serving and receiving regular training, our Graco partners offer focused guidance in finding the right solution for each application. Dedicated technical resources provide the necessary support for getting started with any of our products. Their professional service capabilities include maintenance and repair, reducing downtime to a minimum. All Graco distributors are specifically chosen for their high quality service required by the Graco standard within their particular area of work.



# Contents

## 1K PUMPING AND DISPENSING

Ambient .....	p.	4-5
Heated .....	p.	6

## 1K METERING

Metering .....	p.	7
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## 2K MIXING, METERING AND DISPENSING

Variable Ratio .....	p.	8-9
Fixed Ratio .....	p.	10

## AUTOMATION

Automated Dispensing System .....	p.	11
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## AUTOMATIC COMPATIBLE APPLICATORS

1 Component .....	p.	12-13
2 Component .....	p.	13

## MANUAL COMPATIBLE APPLICATORS

1 Component .....	p.	14-15
2 Component .....	p.	15



# 1K Pumping and Dispensing



## | AMBIENT |

### PNEUMATIC DRIVEN PUMP LOW TO MEDIUM VISCOUS MATERIAL

#### ▶ DURA-FLO™

The Dura-Flo is a two-ball steel pump suitable for pumping low to medium viscosity materials.

- Available for booster application or stand alone, with elevator or ram for 20L, 30L, 60L and 200L
- Pressure ratio range: from 6:1 to 78:1
- Improved serviceability with fewer parts, faster repairs and lower ownership costs
- Max. life option available for abrasive materials and prolonged life
- Pump size of up to 1000 cc

#### Compatible applicators:

Precision Swirl | AutoPlus | Ultra-Lite | Automatic Dispense Valve  
Ultra-Lite Inline | Ultra-Lite 4000 | 1K Ultra-Lite | Ultra-Lite 6000



### PNEUMATIC DRIVEN PUMP MEDIUM TO HIGH VISCOUS MATERIAL

#### ▶ CHECK-MATE™ AND DYNAMITE™

The Check-Mate is a shovel pump that is ideal for pumping medium to high viscosity and abrasive materials.

- Available as stand alone, with elevator or ram for 1L, 3,8L, 20L, 30L, 60L and 200L
- Pressure ratio range: from 5:1 to 85:1
- Minimizes left-over materials and reduces waste
- High quality, durable parts
- Tracks material usage and flow
- Max. life option available for abrasive materials and prolonged life

#### Compatible applicators:

Precision Swirl | Ultra-Lite | Endure | Automatic Dispense Valve  
Ultra-Lite Inline | Ultra-Lite 4000 | 1K Ultra-Lite | Ultra-Lite 6000





## | AMBIENT |

### PNEUMATIC PUMP BULK MATERIAL

#### ▶ UNI-DRUM™

The Uni-Drum is ideal for pumping medium to high viscosity sealants from 1000L or 1200L totes.

- Uses four pneumatic cylinders to achieve smooth operation and prevent jamming
- Improved material savings
- Available with single or twin supply pumps
- Can be used as stand-alone or tandem

Compatible applicators:

Precision Swirl | AutoPlus | Ultra-Lite | Automatic Dispense Valve  
| Ultra-Lite Inline | Ultra-Lite 4000 | Ultra-Lite 6000



### ELECTRIC DRIVEN PUMP LOW TO HIGH VISCOUS MATERIAL

#### ▶ E-FLO SP

Graco Electric pumps and supply systems improve process performance, prevent downtime, reduce maintenance costs and increase electrical efficiency.

- Available in Checkmate or Dura-Flo version
- Available as stand-alone pump or ram for 20L, 30L, 60L or 200L supply system
- Delivers fluid pressures up to 413 bar (6000 psi)
- Energy efficient
- Quiet electric motor
- Low maintenance costs and needs

Compatible applicators:

Precision Swirl | Ultra-Lite | Endure | Automatic Dispense Valve  
Ultra-Lite Inline | Ultra-Lite 4000 | 1K Ultra-Lite | Ultra-Lite 6000



# 1K Pumping and Dispensing



## | HEATED |

### WARM MELT (UP TO 70°C)

#### ▶ WARM MELT

The Warm Melt System ensures a consistent process with accurate temperature control.

- Configurable to fit your unique application and material in 20L, 30L, 60L and 200L
- Up to four heat zones (with two zone expansion kit)
- Intuitive, easy-to-use interface
- Modular approach provides easy plug-in installation and eliminates complex point-to-point wiring

Compatible applicators:  
Endure | Hot Melt Gun



### HOT MELT (UP TO 204°C)

#### ▶ BULK: THERM-O-FLOW™

The Therm-O-Flow is a hot melt system with advanced temperature control capability, which virtually eliminates overheated material and reduces material degradation.

- Continuous flow rate up to 5 kg/min
- Up to 14 heat zones
- Modular approach provides easy plug-in installation and eliminates complex point-to-point wiring
- Available for 20 L or 200 L drums

Compatible applicators:  
Endure | Hot Melt Gun



### HOT MELT (UP TO 204°C)

#### ▶ GRANULES: INVISIPAC™

The Invisipac is a tank free system that uses an innovative melt on demand principle. It allows you to melt only the amount of adhesive that you need, which helps reduce char and nozzle blocking. Especially designed for EVA & metallocene granulate applications.

- Up to 75% material savings possible
- 10 minutes start up time
- Substantial energy savings
- Remote monitoring option via phone, tablet or computer

Compatible applicators:  
GS 35 | GM 100



# 1K Metering



## | METERING |

### SHOT SIZES FROM 0,001 TO 52 CC

#### ▶ DISPENSIT™

Graco offers a broad line of precision Dispensit metering and dispensing valves for applications requiring low-volume, single-component dispensing. These valves come in many sizes and dispense a wide range of materials.

- Offers exceptional performance with a range of material viscosities – from water thin to pasty consistency
- Features on/off valves for continuous bead applications
- Lightweight, compact design is easy to integrate with automated equipment
- Simple valve design means easy maintenance
- Precise, repeatable shot-to-shot or bead dispensing

Compatible units:

Dura-Flo | Dynamite | Check-Mate  
Unixact | E-Flo SP



### CONTINUOUS FLOW UP TO 87 CC/MIN

#### ▶ PROGRESSIVE CAVITY PUMP

The Graco PC pump is ideal to pump materials filled with abrasive compounds such as glass, metallic or organic fillers.

- Does not break or damage abrasive fillers
- Continuous, volumetric dispense
- Compact size and light weight
- Wide range of adjustable flow rates
- Wear resistant and low maintenance
- High repeatability and accuracy +/- 1% over entire material pot life

Compatible units:

Dura-Flo | Dynamite | Check-Mate |  
Unixact | E-Flo SP



### SHOT SIZES DOWN TO 1CC OR CONTINUOUS FLOW FROM 6CC TO 22500 CC/MIN

#### ▶ PCF™

The PCF is a metering system that dispenses a precise, continuous flow of single component sealants or adhesives. It can be used in conjunction with a material supply system and robotics platform.

- Automatically adjusts to compensate changes in material temperature/viscosity or dispense rate according to robot speed
- Able to handle ambient, warm melt or hot melt material
- Plug-in communication protocol for PROFIBUS™, PROFINET™, DeviceNet™, EtherNet/IP™ and Discrete I/O
- Stores historical data for all jobs

Compatible applicators:

Precision Swirl | AutoPlus | Ultra-Lite  
Endure | AutoPlus | Automatic Dispense Valve

Compatible units:

Dura-Flo | Dynamite | Check-Mate  
Uni-Drum | Warm Melt | Therm-O-Flow |  
Unixact | E-Flo SP



# 2K Mixing, Metering and Dispensing



## | VARIABLE RATIO |

### SHOT SIZES FROM 2 CC TO 70 CC

#### ▶ PR70v™

The PR70v variable ratio system accurately meters, mixes and dispenses low to medium-viscosity materials.

- Exceptional performance with materials from 1:1 to 24:1
- Multiple tube sizes to pinpoint specific target ratios and deliver ratio accuracy to 1%
- Multiple feed option variations for tanks and drums, including agitation
- Interchangeable pumps accommodate future ratio changes

Compatible applicators:  
MD2



### CONTINUOUS FLOW UP TO 2KG PER MINUTE

#### ▶ PRECISIONDOSE™

The most complete system for dispensing adhesives that use booster paste to accelerate the curing process of structural adhesives.

- Faster cure rates increase productivity
- Durable pump design for long life, even with higher-viscosity adhesives
- Accurate control of booster addition

Compatible applicators:  
MD2



### CONTINUOUS FLOW UP TO 4KG PER MINUTE FOR PAILS

#### ▶ EXACTABLEND™ SB

The Exactblend SB is a variable ratio system that provides accurate on-ratio mixing for medium to high-viscosity materials.

- Electronically controlled closed loop variable ratio from 1:1 to 20:1
- Smooth pump changeover delivers consistent flow
- Mixing at the gun and base purging provides significant material savings

Compatible applicators:  
Ultra-Lite 4000 (with Tri-Core mixer) | MD2





## | VARIABLE RATIO |

**CONTINUOUS FLOW UP TO 4 KG  
PER MINUTE FOR DRUMS**

### ▶ EXACTABLEND™ AGP

The Exactablend AGP is a system designed for the glass industry that handles 2 component sealants and adhesives – providing accurate on-ratio mixing and a consistent flow rate, even during pump changeovers.

- Guaranteed material savings
- Closed loop flow control provides ratio assurance
- Quick and easy set-up
- Variable ratio from 6:1 to 14:1 (Silicone and Polysulphide)
- Variable ratio from 12:1 to 20:1 (Polyurethane)

Compatible applicators:

Ultra-Lite 4000 (with Tri-Core mixer) | MD2



**CONTINUOUS FLOW UP TO 25 KG  
PER MINUTE**

### ▶ VPM™

The Graco VPM Metering System is a hydraulic variable metering system that uses positive displacement pumps to dispense high-viscosity materials such as tooling pastes and adhesives.

- Proven ratio accuracy of 2%
- Fast electronic ratio change
- Ratio range: 1:1 to 5:1

Compatible applicators:

Automatic Dispense Valve



**CONTINUOUS FLOW UP TO 30 KG  
PER MINUTE**

### ▶ VRM™

The Graco VRM Metering System is a hydraulic variable metering system that uses positive displacement pumps to dispense low to medium-viscosity materials.

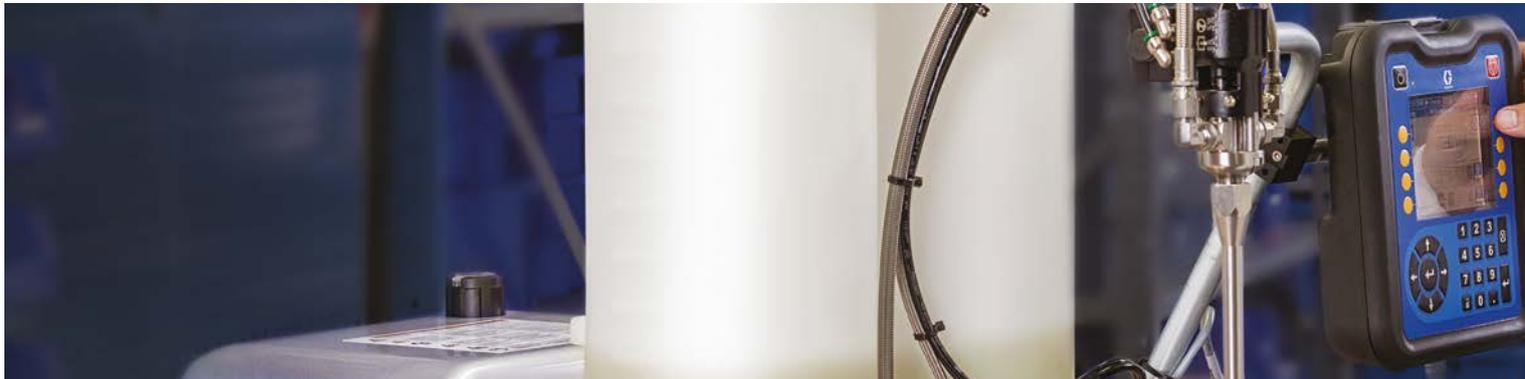
- Proven ratio accuracy of 2%
- Fast electronic ratio change
- Ratio range: 1:1 to 5:1

Compatible applicators:

Automatic Dispense Valve



# 2K Mixing, Metering and Dispensing



## | FIXED RATIO |

### SHOT SIZES FROM 0.005 CC TO 5 CC

#### ▶ PD44™

The PD44 is specifically designed to dispense small amounts from low to high viscosity materials. The metering rods are matched with machined seals for improved seal life.

- Improved low-viscosity spool design
- Rod positive displacement metering
- Eliminates cleaning and potential curing of materials in the valve
- Interchangeable pumps accommodate future ratio changes

#### Compatible units:

Dura-Flo | Dynamite | Check-Mate | Unixact | E-Flo SP



### SHOT SIZES FROM 2 CC TO 70 CC

#### ▶ PR70™

The PR70 fixed ratio system accurately meters, mixes and dispenses low to medium viscosity materials.

- Exceptional performance with materials ratio from 1:1 to 12:1
- Multiple pump sizes to pinpoint specific target ratios and deliver ratio accuracy to 1%
- Multiple feed option variations for tank and drums, including agitation
- Interchangeable pumps accommodate future ratio changes
- Available in entry level model (PR70E)
- Available with flow control option (PR70F)

#### Compatible applicators:

MD2



### SHOTS FROM 0.3 CC TO ANY SIZE OR CONTINUOUS FLOW UP TO 3200CC/MIN AT 207 BAR

#### ▶ EFR™

The Electric Fixed Ratio (EFR) system is a meter, mix and dispense system for 2 component sealants, adhesives and TIM materials. Ideal for applications requiring precision dispense, the electric motor provides superior control over material and dispensing of gaskets, beads, shots and potting applications.

- Consistent ratio and flow rate from start to stop
- No pulsation even during pump changeover
- For low and high flow applications
- Configurable with different pump sizes to handle a wide range of materials including TIM
- Low maintenance needs

#### Compatible applicators:

MD2



# Automation



## | AUTOMATED DISPENSING SYSTEM |

**SHOT SIZES ABOVE 30 CC OR  
CONTINUOUS FLOW UP TO 19000 CC/MIN**

### ► HFR™

The HFR is a fixed ratio system that can meter and mix low to high viscosity materials for on-ratio dispensing.

- Exceptional performance with material ratios from 1:1 to 32:1
- Offers continuous flow for bead, shot, pour and spray applications (manual or automatic)
- A range of material supply options available for tanks and drums, including agitation
- Available for ambient or heated dispense applications
- Interchangeable pumps accommodate future ratio changes

Compatible applicators:

MD2 | Fusion AP | Fusion SP



**AUTOMATED DISPENSING SYSTEM**

### ► UNIXACT™

Unixact is a fully integrated fluid dispense system for precision applications. It is configurable for 1 and 2 component chemistries, and has a flexible design to adapt easily as materials and parts change. Graco offers the possibility of validating your application.

- Available in 300 mm x 300 mm or 500mm x 500 mm work envelope
- 15 Kg load capability
- Servo drive motors for X,Y,Z and dispense axis (theta)
- Faster cycle times
- Consistent, high precision dispensing +/- 0.02mm
- Real time process monitoring
- Custom configurations, scalable designs
- Easy and intuitive on-board operator controls

Compatible units:

Progressive cavity pump | PCF | Dispensit | PD44 | PR70 | HFR | EFR



# Automatic Compatible applicators

## | 1 COMPONENT |

	▶ GS 35	▶ GM 100	▶ PRECISION SWIRL™	▶ AUTO PLUS™
				
Heated	✓	✓	-	-
Max. fluid pressure in bar	103	103	241	276
Open / Close Mechanism	Needle & Seat	Needle & Seat	N/A	Needle & Seat
Wetted Parts	<ul style="list-style-type: none"> <li>•AluminiumCST</li> <li>•SST</li> <li>•Carbide</li> <li>•Brass</li> <li>•Chemically resistant seals</li> <li>•Chrome</li> </ul>	<ul style="list-style-type: none"> <li>•AluminiumCST</li> <li>•SST</li> <li>•Carbide</li> <li>•Brass</li> <li>•Chemically resistant seals</li> <li>•Chrome</li> </ul>	<ul style="list-style-type: none"> <li>•SST</li> <li>•AluminiumChrome</li> <li>•Carbide</li> <li>•Acetal plastic</li> <li>•PTFE</li> <li>•Fluoroelastomer</li> </ul>	<ul style="list-style-type: none"> <li>•SST</li> <li>•Carbide</li> <li>•UHMWPE</li> <li>•PEEK</li> <li>•Acetal plastic</li> <li>•PTFE</li> <li>•Fluoroelastomer</li> </ul>
Material Consistency	Solids	Solids	Low to Mid Viscosity	Low to Mid Viscosity
Compatible Units:				
Dura-Flo	-	-	✓	✓
Check-Mate	-	-	✓	✓
Uni-Drum	-	-	✓	✓
Eflo SP	-	-	✓	✓
Warm Melt	-	-	✓	✓
Exactblend	-	-	-	-
TOF	-	-	-	-
Invisipac	✓	✓	-	-
PCF	-	-	✓	✓
PrecisionDose	-	-	-	-
PR70	-	-	-	-
EFR	-	-	-	-
HFR	-	-	-	-
VPM / VRM	-	-	-	-
Features	<ul style="list-style-type: none"> <li>•Air Open / Spring Close</li> <li>•More than 3,500 cycles/min</li> <li>•Lifetime: up to 150 million cycles</li> </ul>	<ul style="list-style-type: none"> <li>•Air Open / Air Close up to 10,000 cycles per minute</li> <li>•Lifetime up to 1 billion cycles</li> <li>•Accurate stitching</li> </ul>	<ul style="list-style-type: none"> <li>•Provides a circular loop swirl bead pattern</li> <li>•Changing of pattern size during application possible</li> <li>•Minimal tip wear</li> </ul>	<ul style="list-style-type: none"> <li>•Airless</li> <li>•Lightweight and compact rounded gun design</li> <li>•Capable of handling high production speeds</li> <li>•Wide range tip line for a variety of applications</li> </ul>

## | 1 COMPONENT |

## | 2 COMPONENT |

▶ ULTRA-LITE™	▶ ENDURE®	▶ AUTOMATIC DISPENSE VALVE	▶ MD2	▶ FUSION® AP
				
✓	✓	✓	-	-
276	345	345	207	242
Ball & Seat or Needle & Seat	Needle & Seat	Ball & Seat	Ball & Seat	Needle & Seat
<ul style="list-style-type: none"> <li>•SST</li> <li>•Carbide</li> <li>•Chrome</li> <li>•PE</li> <li>•PP</li> <li>•Parker Polymite</li> <li>•PTFE</li> <li>•(aluminum)</li> </ul>	<ul style="list-style-type: none"> <li>•SST</li> <li>•AluminiumChrome</li> <li>•Carbide</li> <li>•Acetal plastic</li> <li>•PTFE</li> <li>•Fluoroelastomer</li> </ul>	<ul style="list-style-type: none"> <li>•SST</li> <li>•Carbide</li> <li>•Fluoroelastomer</li> <li>•UHMWPE</li> </ul>	<ul style="list-style-type: none"> <li>•SST</li> <li>•UHMWPE</li> <li>•PEEK</li> <li>•Fluoroelastomer</li> <li>•Carbide</li> </ul>	<ul style="list-style-type: none"> <li>•Aluminium</li> <li>•SST</li> <li>•CS</li> <li>•UHMWPE</li> <li>•Chemically resistant O-rings</li> <li>•Polycarbally™</li> <li>•Nylon</li> </ul>
Mid to High Viscosity	Very High Viscosity	Mid to High Viscosity	Low to High Viscosity	Low Viscosity
<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>✓</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>✓</li> <li>-</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>-</li> <li>✓</li> <li>-</li> <li>✓</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>✓</li> <li>-</li> <li>-</li> <li>-</li> <li>-</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>✓</li> </ul>
<ul style="list-style-type: none"> <li>•Air operated with spring-assisted closing</li> <li>•Snuff back</li> <li>•Dual seal design.</li> <li>•Manifold mounted</li> </ul>	<ul style="list-style-type: none"> <li>•Air operated with spring-assisted closing</li> <li>•Snuff back</li> <li>•Dual seal design.</li> <li>•Manifold mounted</li> </ul>	<ul style="list-style-type: none"> <li>•Air Open / Spring Close up to 10,000 cycles per minute</li> <li>•Lifetime up to 1 billion cycles</li> <li>•Accurate stitching</li> </ul>	<ul style="list-style-type: none"> <li>•Provides a circular loop swirl bead pattern</li> <li>•Changing of pattern size during application possible</li> <li>•Minimal tip wear</li> </ul>	<ul style="list-style-type: none"> <li>•Airless</li> <li>•Lightweight and compact rounded gun design</li> <li>•Capable of handling high production speeds</li> <li>•Wide range tip line for a variety of applications</li> </ul>

# Manual Compatible applicators

## | 1 COMPONENT |

	▶ ULTRA-LITE™ INLINE	▶ HOT MELT GUN	▶ ULTRA-LITE™ 4000
			
Heated	-	✓	-
Max. fluid pressure in bar	234	241	276
Open / Close Mechanism	Needle & Seat	Needle & Seat	Needle & Seat
Wetted Parts	<ul style="list-style-type: none"> <li>•AluminiumSST</li> <li>•Carbide</li> <li>•PE</li> <li>•CV75®</li> </ul>	<ul style="list-style-type: none"> <li>•AluminiumFluoroelastomer</li> <li>•SST</li> <li>•PTFE</li> <li>•Brass</li> </ul>	<ul style="list-style-type: none"> <li>•AluminiumSST</li> <li>•Fluoroelastomer</li> <li>•Polyurethane</li> <li>•UHMWPE</li> </ul>
Material Consistency	Mid Viscosity	Very High Viscosity	Mid to High Viscosity
Compatible Units:			
Dura-Flo	✓	-	✓
Check-Mate	✓	-	✓
Uni-Drum	✓	-	✓
Eflo SP	✓	-	✓
Warm Melt	-	✓	-
Exactblend	-	-	✓
TOF	-	✓	-
Invisipac	-	-	-
PCF	-	-	-
PrecisionDose	-	-	-
PR70	-	-	-
EFR	-	-	-
HFR	-	-	-
VPM / VRM	-	-	-
Features	<ul style="list-style-type: none"> <li>•Selectable trigger lock and hanger slot for operator convenience.</li> <li>•Accepts flanged or threaded tips for a variety of dispensing needs</li> </ul>	<ul style="list-style-type: none"> <li>•Light trigger pull</li> <li>•Precise temperature control from PID control panel</li> <li>•Dual heaters offer rapid warm-up during initial start-up and maintain uniform temperature control</li> <li>•Swirl dispensing available as option</li> </ul>	<ul style="list-style-type: none"> <li>•Designed for light trigger pull and easy handling.</li> <li>•Exchangeable tips for a variety of dispensing needs.</li> <li>•150° head/handle angle for convenient operation.</li> <li>•Option with Tri-Core mixer</li> </ul>



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All written and visual data contained in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

Graco is certified ISO 9001.



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