Check-Mate® Pumps

**TYPICAL APPLICATIONS**
- Transferring viscous and abrasive chemicals in the formulation of high viscosity materials
- Feeding high volume applicators or proportioners directly from pails or drums
- Transferring sealants and adhesives to one or more operating dispensing stations
- Packaging drums, pails caulkimg tubes or chubs

**MATERIALS**
- Sealants
- Acrylics
- Silicones
- Adhesives
- Butyl
- Caukling Compounds
- Inks
- Epoxy
- Mastics
- PVC Sealers
- Urethanes

**FEATURES**
- Standard Severe Duty coatings and seals
- Optional MaxLife™ coatings and seals that double the life of the standard offering
- NeXT generation (NXT) air motor with runaway control protection and modular build-up
- Optimal enclosed wet-up protects seals from contamination and allows circulation.
- Electric tandem systems significantly reduce downtime
- Optional DataTrak™ control which tracks material usage and flow, and supports preventative maintenance

**BENEFITS**
- Motor and lower durability save high maintenance costs and reduce downtime.
- Easy maintenance, minimal service and repair cost.
- Significant noise and icing reduction of NXT air motor.
**Uni-Drum™ Pumps**

**TYPICAL APPLICATIONS**
For systems where underbody material is sprayed and sealing beads are applied to a car body
Feed system for high volume sealant applications

**MATERIALS**
Medium viscosity materials, typically PVC
Liquid applied sound deadeners

**FEATURES**
- Tandem pump with pneumatic crossover
- Double filter station
- Automatic switch-off after low pressure detection
- Manual depressurization at pumps and filters
- Specially-designed plate venting system reduces waste

**BENEFITS**
- Reduced drum change over time
- Reduces ram pump and tote container floor space requirement
- Reduces material waste with flat bottom surface follower plate
- Provides fast tote changes and ensures drum alignment
## PD44 Dispensing System

### TYPICAL APPLICATIONS
- Micro dispensing two-component materials:
  - Potting, gasketing, sealing, encapsulation,
  - Syringe filling

### MATERIALS
- Polyurethane
- Epoxy
- Silicones

### FEATURES
- Rod positive displacement metering
- 2 component materials remain separated within the valve
- No material hoses between rod pump outlets and mixer inlet
- Handles low to paste viscosity materials
- Fixed ratio Design
- Compact size and lightweight

### BENEFITS
- Precise mix ratio and shot repeatability
- Eliminates cleaning and potential hardening of materials in valve
- Assures precise and repeatable shot sizes
- Handles most reactive resin systems
- Accurate ratio control

## PR70 Dispensing System

### TYPICAL APPLICATIONS
- Micro dispensing two-component materials:
  - Automotive electronics, consumer electronics,
  - Medical, sporting goods

### MATERIALS
- Polyurethane
- Silicones
- Epoxy

### FEATURES
- Reliable and durable to maximize system performance
- High performance pumps result in high ratio accuracy
- Intuitive operator controls
- Multiple feed systems including PE and SST tanks
- MD2 dispense valve for accurate 2-component dispensing
- Quick system training and lower mean time to repair

### BENEFITS
- Low cost of maintenance and reduced downtime
- Reduce scrap and re-work
- Extended seal life and easy replacement
- Long pump life with no corrosion
### Posi-Ratio®/CTF Dispensing System

<table>
<thead>
<tr>
<th>TYPICAL APPLICATIONS</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric potting, bonding &amp; gasketing</td>
<td>Polysulfide</td>
</tr>
<tr>
<td></td>
<td>Silicone</td>
</tr>
<tr>
<td></td>
<td>Urethane</td>
</tr>
<tr>
<td></td>
<td>Epoxy</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate positive displacement metering pumps</td>
<td>Easy shot size and flow rate adjustment</td>
</tr>
<tr>
<td>Ability to handle most material viscosities</td>
<td>Easy ratio change</td>
</tr>
<tr>
<td>Machine mounted or handheld dispense valve</td>
<td>Low maintenance and designed for easy service to reduce downtime</td>
</tr>
<tr>
<td>Rugged heavy-duty construction</td>
<td></td>
</tr>
<tr>
<td>Fixed or variable ratio design</td>
<td></td>
</tr>
</tbody>
</table>

### DL™ Dispensing System

<table>
<thead>
<tr>
<th>TYPICAL APPLICATIONS</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laminating</td>
<td>Rigid urethanes</td>
</tr>
<tr>
<td>Filter bonding</td>
<td>Flexible urethanes</td>
</tr>
<tr>
<td>Continuous flow, Resin dispensing</td>
<td>Silicones</td>
</tr>
<tr>
<td></td>
<td>High performance epoxies</td>
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<tr>
<td></td>
<td>Syntactic foams</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide ratio and flow rate range</td>
<td>Less downtime</td>
</tr>
<tr>
<td>Low maintenance</td>
<td>Optimal mixing</td>
</tr>
<tr>
<td>Easy to program</td>
<td>Low maintenance</td>
</tr>
<tr>
<td>Choice of many engineered feed systems</td>
<td></td>
</tr>
<tr>
<td>Motorless or dynamic mixers</td>
<td></td>
</tr>
<tr>
<td>Compact portable modular design</td>
<td></td>
</tr>
</tbody>
</table>
### Hot Melt Equipment Solutions

#### Therm-O-Flow® Bulk Melt Systems

<table>
<thead>
<tr>
<th>TYPICAL APPLICATIONS</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Insulating glass</td>
<td>- Butyl Rubber</td>
</tr>
<tr>
<td>- Automotive interiors</td>
<td>- Ethylene Vinyl Acetate (EVA)</td>
</tr>
<tr>
<td>- RV lamination</td>
<td>- Polyamide</td>
</tr>
<tr>
<td>- Window manufacturing</td>
<td>- Polyurethane Reactive (PUR)</td>
</tr>
<tr>
<td>- Cable manufacturing</td>
<td>- Pressure Sensitive Adhesives (PSA)</td>
</tr>
<tr>
<td></td>
<td>- Polysobutylene (PIB)</td>
</tr>
<tr>
<td></td>
<td>- Warm Melt Sealers</td>
</tr>
</tbody>
</table>

#### FEATURES
- High melt rate even for high viscous materials
- Advanced temperature control
- Includes latest air motor technology
- Improves process efficiency with:
  - Low and empty sensors
  - Electric cross over for tandem units
  - QuikChange pump packages
  - Cast-in heaters which, by normal use, never have to be replaced
  - Self-diagnostics allow for predictive and preventive maintenance strategies

- 7 day timer
- Temperature set-back and inactivity shut-off
- Built-in runaway control

#### BENEFITS
- No temperative overshoot resulting in material degradation
- Quiet, low icing air motors
- Also used with abrasive materials
- Less downtime
- Ease of use
Complete set of heated follower plates

MegaFlo™ Fluid Plate (only for Therm-O-Flow 200)
• for high melt rates

Smooth platens
• Even surface heats less material for maximum efficiency
• Ideal for higher-cost materials with low flow rates

Finned platens
• Provide highest melt rate for high flow and hard-to-melt materials

EasyKey™ User Interface
Advanced controls support manufacturing process improvement initiatives such as lean manufacturing
**PrecisionFlo™ XL**

**TYPICAL APPLICATIONS**
- Automotive bodyshop applications
- Automotive paintshop applications
- Industrial bead dispense applications:
  - glass/window, transportation, vending machines, aerospace, appliances
- Industrial and automotive applications which use PrecisionSwirl

**MATERIALS**
- PVC
- Epoxy
- LASD
- Silicone

**FEATURES**
- Closed loop "real time" pressure and flow control supports continuous volume optimization
- System autotune
- Able to operate two fluid plates with one controller
- Fully integrated accessory controls
- Comprehensive data management
- Multiple languages
- Easy key or touch screen display
- High pressure rating
- Compact design
- Flowmeter selection
  - (spur gear, helical gear, coriolis)

**BENEFITS**
- Accurate and consistent bead control
- Saves set-up time and reduces time delay
- Production and fault reporting, automatically stored and retrieved
- Mounts directly on robot shoulder
- Components designed to handle filled, abrasive and fragile materials
- Working pressures up to 240 bar (24 Mpa)
- High flowrates
- Handles high viscous materials with less pressure drop
- Suitable with extrude, spray, stream and swirl applicators

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**PrecisionSwirl™ Module**

**TYPICAL APPLICATIONS**
- Hem flange adhesive bonding
- Structural adhesive bonding
- Bodypanel reinforcement
- PVC seamsealing
- After hem sealing
- Liquid mask sealing
- Underbody sound-deadeners

**MATERIALS**
- Heat cure epoxy
- PVC plastisol
- Expandable sealers
- Liquid applied sound deadeners

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**TYPICAL APPLICATIONS**

**MATERIALS**
**PrecisionFlo™ LT**

**TYPICAL APPLICATIONS**
- Bead dispensing
- Seam sealing
- Hem flange
- Sound deadening
- Bonding
- Profile wrapping

**MATERIALS**
- PVC
- Epoxy
- Hot Melt / Warm Melt
- LASD
- Silicones

**FEATURES**
- Real time, closed-loop on pressure and or flow
- No reload time required
- Continuous flow
- Processes low to high material viscosities, flow rates and shot sizes
- Simple operator interface
- Multiple languages
- Processes ambient and Hot Melt materials up to 200°C
- Operates on fluid plate

**BENEFITS**
- Accurate and consistent bead control
- Fast response time
- A variety of materials can be used
- Easy to operate
- Mounts directly on robot shoulder

**FEATURES**
- Provides a circular loop ‘swirl’ bead pattern
- Swirl pattern has uniform bead profile and consistent edges
- Swirl pattern can be varied along the bead path.
- Designed edge control
- Dispenses open or closed, wide or narrow pattern
- Also available as compact version

**BENEFITS**
- Increased tip standoff simplifies robot programming
- Swirl orbital applicator has no dynamic seals
- Add to PrecisionFlo XL to build a complete fluid handling system
- Tool-mounted and gun-mounted options available
- For areas difficult to reach with standard configuration
Selecting the Right Graco 1K Bulk Supply System

How to choose the right pump for your material

Use these charts to select the Check-Mate pump that's right for your material
1) Select your material type (urethane, epoxy, acrylic, silicone, etc.) and its viscosity
2) Select your flow rate
3) Choose a Graco Supply System based on where these points intersect

![Graph showing pressure vs flow for different materials]

- Specialty Resins: 300,000 Centipoise
- Autobody Sealer: 200,000 Centipoise
- Grease: 50,000 Centipoise
- Silicones: 20,000 Centipoise
- Polysulfides: 10,000 Centipoise
- Lithographic Inks: 5,000 Centipoise
- Automotive Epoxy: 20,000 Centipoise
- Acrylic Caulks: 5,000 Centipoise
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![Graph showing pressure vs flow for different materials]

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- Acrylic Caulks: 5,000 Centipoise

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ABOUT GRACO

Founded in 1926, Graco is a world leader in fluid handling systems and components. Graco products move, measure, control, dispense and apply a wide range of fluids and viscous materials used in vehicle lubrication, commercial and industrial settings.

The company’s success is based on its unwavering commitment to technical excellence, world-class manufacturing and unparalleled customer service. Working closely with qualified distributors, Graco offers systems, products and technology that set the quality standard in a wide range of fluid handling solutions. Graco provides equipment for spray finishing, protective coating, paint circulation, lubrication, and dispensing sealants and adhesives, along with power application equipment for the contractor industry. Graco’s ongoing investment in fluid management and control will continue to provide innovative solutions to a diverse global market.

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