

EQUIPMENT GUIDE / ADHESIVE/SEALANT DISPENSING

Adhesive/Sealant Dispensing Equipment Selection Guide

Which proportioner, supply pump, or hot-melt platform holds up against your actual shot size, ratio, and duty cycle – not the generic "dispensing system" answer.

THE PROBLEM THIS GUIDE SOLVES

Off-ratio material is a warranty failure, not a cosmetic defect

A two-component proportioner delivered off-ratio doesn't just look wrong — on insulating glass, EV battery packs, or medical device bonds, it's a field failure years later. Shot size, mix ratio, drive type, and viscosity are the real selection axes, not "bigger pump vs. smaller pump."

This guide organizes real, vendor-documented selection data by dispensing equipment category, not generically. Every spec and application call-out is sourced to named Graco product literature.

EQUIPMENT SELECTION, AT A GLANCE

Dispensing equipment tiers, by what they're actually built to handle

Equipment tier	Built for	Watch for
Meter-Mix Proportioners (PR-X/PR-Xv, EFR/EVR, PR70)	Two-component ratio-critical dispensing: electronics potting, EV battery gap fillers, solar/telecom weatherproofing	FIFO fluid path prevents material curing inside the pump — the real failure mode on fast-curing chemistries
Automated & Precision Dispensing (GSD, PSM, DispensIt, PCF)	Inline electronics assembly: bonding, sealing, gasketing, potting, encapsulation	Ceramic vs. stainless fluid path is the abrasion-driven decision on abrasive TIM (thermal interface material) service
Bulk Supply Systems (UniDrum, E-Flo iQ, Check-Mate, Dura-Flo, DynaMite, E-Flo SP)	Drum-to-line material supply, from 300cc cartridges to 1200L totes	Stainless construction is specifically for waterborne compatibility — a real material-selection axis, not a generic upgrade
Hot Melt & Warm Melt Systems (InvisiPac, PC-8, Therm-O-Flow)	Case/carton sealing, composite manufacturing resin temperature control	Tank-free FIFO melt-on-demand design eliminates the charring/thermal-shock failure mode of tank-based hot melt
Specialty Platforms (ExactaBlend AGP, HFR)	Insulating glass sealing, automotive NVH acoustic foam	Automatic shutdown on off-ratio conditions exists specifically because an off-ratio IG seal is a multi-year warranty failure

| POSI-RATIO METER-MIX-DISPENSE SYSTEM (PR-X / PR-XV) — EVIDENCE: STRONG

EV battery, electronics, solar & telecom — where off-ratio is a warranty event**Graco PR-X Fixed Ratio · PR-Xv Variable Ratio**

EV Battery Manufacturing

Solar

Telecommunications

Electronics

Graco's own target-market list names electronics, EV battery, general industry, solar, and telecommunications directly — the strongest sector evidence in this dataset. A patented FIFO fluid path prevents material blocking or curing inside the pump, which matters specifically for fast-curing thermal-interface and cell-gap-filler materials in battery pack assembly. On solar PV module framing and junction-box potting, and on outdoor telecom enclosure weatherproofing, off-ratio two-component silicone or urethane becomes a field warranty failure — exactly what fixed/variable ratio control and the FIFO path are built to prevent.

Note on sector overlap: "EV Battery Manufacturing" (Graco's framing: pack/module adhesives and gap fillers) and "Lithium Battery Manufacturing and Recycling" (a separate vendor's framing: process-chemistry piping) are two real, vendor-named sectors covering different parts of the same plant — kept separate rather than merged, since they describe different equipment needs at the same facility.

| ELECTRIC FIXED/VARIABLE RATIO PROPORTIONER (EFR / EVR) — EVIDENCE: MODERATE

**Graco EFR / EVR (Z-Pump + APD20 Electric Driver)**

TIMs (Thermal Interface Materials)

Silicones

Urethanes

Epoxies

Elite construction is rated for highly abrasive TIMs, silicones, urethanes, and epoxies — 50,000+ gallons before piston-cylinder wear becomes noticeable, more than 10× the life of standard construction. EVR's "base purge" feature conserves material during changeovers without replacing static/dynamic mixers, a real cost saver on a line running multiple two-component recipes per shift.

| BENCHTOP METER-MIX-DISPENSE SYSTEM (PR70) — EVIDENCE: STRONG



Graco PR70e / PR70 / PR70v / PR070f / PR70s

Automotive Components

Consumer Electronics

Medical Device Manufacturing

Sporting Goods

Appliance Manufacturing

Graco's own key-market list names automotive components and electronics first, with consumer electronics, medical device manufacturing, sporting goods, and appliance manufacturing all separately confirmed. The 2.0–70cc shot range at $\pm 1\%$ ratio accuracy is the benchtop tier – the right answer for low-volume potting where a full automated cell (GSD) is oversized. On medical device bonds, $\pm 1\%$ ratio accuracy and repeatable small shots are what a bond line must demonstrate for process validation, though no medical-specific certification is published for this platform. Higher-volume appliance foam-in-place work escalates past PR70's 70cc ceiling to HFR's hydraulic 30cc-minimum platform.

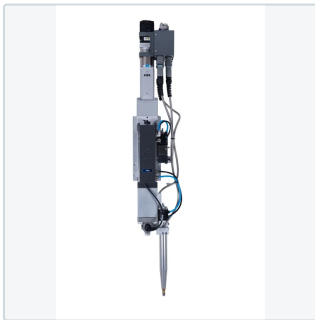
AUTOMATED ADHESIVE DISPENSING SYSTEM (GSD) – EVIDENCE: STRONG

Inline electronics assembly, purpose-built**Graco GSD500x500 / GSD600x500 / GSD300x300**

Electronics Manufacturing

Graco's family description is explicitly electronics: an automated platform for inline or stand-alone electronics manufacturing – bonding, sealing, gasketing, potting, and encapsulation – with visual recognition/positioning, real-time data monitoring, and online/offline modes. This is the automated-cell tier, above the benchtop PR70 for high-throughput electronics lines.

PRECISION SHOT METER DISPENSE SYSTEM (PSM) – EVIDENCE: MODERATE

**Graco PSM – 37 total SKUs**

Epoxies

Silicones

Acrylics

Urethanes

TIMs

Servo control with a FIFO fluid path eliminates dead zones and clogging, at $\pm 1\%$ repeatability. Ceramic-vs-stainless fluid path is the real abrasion-driven selection decision on TIM service – the electronics tie for this family. 37 SKUs span shot size (25/50/100/200cc), fluid path (SST or ceramic), gateway (EtherNet/IP or PROFINET), and warm-melt configuration.

SINGLE-COMPONENT METERING / DISPENSE VALVE (DISPENSIT) & PRECISION CONTINUOUS FLOW METERING (PCF) – EVIDENCE: LIGHT

Dispensit's five models are all real Positive Displacement Metering Rod Valves; no market list is published for this family, but dot-dispense and precise-shot duty is the electronics assembly use case by design – the 1053 offers servo, programmable shot/bead control, while the 1206 is manual/mechanical with a calibrated stroke. PCF's 12 complete SKUs deliver closed-loop continuous-flow metering with no shot-size limitation and 16 programmable applicator styles – the matrix itself, spanning cartridge/mastic/heated-mastic regulators and three interface options, is the real reference-table content, though no market list is published for this family either.

DRUM UNLOADER SUPPLY SYSTEM (UNIDRUM) & ONE-COMPONENT TANK-TO-TIP (E-FLO IQ) –
EVIDENCE: STRONG/MODERATE

Automotive body-shop & glazing supply



Graco Electric & Pneumatic UniDrum · E-Flo iQ

Automotive Components

Curtainwall & Glass Installation

UniDrum evacuates 1000L (264 gal) or 1200L (300 gal) magna/tote drums, called out specifically for highly abrasive materials – liquid applied sound deadener (LASD) is the named automotive body-shop example. Graco's own claim: the only electric-pump-powered drum unloader on the market, with 49 configurator options on the electric version. E-Flo iQ's Axial Valve high-flow example is explicitly "window urethane" – spanning both automotive glass bonding and architectural curtainwall glazing. On a curtainwall line that cannot stop mid-unit, tandem configuration gives continuous supply across drum changeovers, and E-Flo iQ meters electrically direct from a heated 55-gallon drum with no external dosing system required.

GENERAL INDUSTRIAL SUPPLY PUMPS – EVIDENCE: MODERATE

Check-Mate, Dura-Flo, DynaMite & E-Flo SP

Graco Check-Mate (112 SKUs) · Dura-Flo (48 SKUs) · DynaMite (3 SKUs) · E-Flo SP

General Industrial Assembly & MRO



Check-Mate carries the widest fluid list in this dataset — sealants, adhesives, silicones, epoxies, acrylics, urethanes, inks, mastics, lubricants, butyls, PVC sealers, and caulking compounds — with stainless construction specifically for waterborne compatibility, a real material-selection axis independent of ratio or shot size. Dura-Flo's 2-ball piston positive-displacement design and stainless-steel chrome rod claim 3×+ life versus standard chrome. DynaMite is the small-batch/MRO end of the ladder, extruding from a 300cc cartridge up to 1-gallon containers. E-Flo SP is deliberately configurator-only with no published SKU table — when a customer needs an electric-driven, PLC-integrated sealant supply pump outside the fixed Check-Mate matrix, the answer is "Graco quotes E-Flo SP to spec," not "not available."

TANK-FREE HOT MELT SYSTEM (INVISIPAC) & HOT MELT PATTERN CONTROLLER (PC-8) –
EVIDENCE: STRONG

30%+ adhesive reduction, achieved by the pattern controller



Graco InvisiPac HM10 / HM25c / HM50 · PC-8 / PC-8e

Packaging / Case & Carton Sealing

Graco names case/carton sealing directly as the InvisiPac application. The melt-on-demand, tank-free design runs on the FIFO principle, eliminating the charring and thermal-shock failure mode of tank-based hot melt. Graco's own claim is adhesive usage reduction of 30% or more – and PC-8's function is how that's actually achieved: it converts a solid adhesive bead to a stitched bead, directly reducing adhesive consumption per case, with a color LCD interface showing an on-screen pattern preview.

BULK HOT/WARM MELT SYSTEMS (THERM-O-FLOW) & ADVANCED GLAZING PROPORTIONER (EXACTABLEND AGP) – EVIDENCE: STRONG

Composite resin temperature control & insulating-glass warranty protection



Graco Therm-O-Flow · ExactaBlend AGP · HFR

Composite Manufacturing

Curtainwall & Glass Installation

Automotive Components (NVH Foam)

Therm-O-Flow's stated application is composite manufacturing resin temperature control, with ambient/warm/hot-melt conditioning up to 400°F. ExactaBlend AGP is Graco's stated niche for curtainwall and glass installation (insulating glass sealing), handling silicones, urethanes, and polysulfides – with automatic shutdown on off-ratio conditions specifically to prevent seal failure, because a fogged or failed IG unit in a building facade is a warranty event measured in years, not days.

HFR (Hydraulic Fixed Ratio): the only hydraulic-drive platform in this dataset and the highest-minimum-shot system at 30cc. One real SKU is literally named for an NVH (noise/vibration/harshness) foam system – automotive body-cavity acoustic foam – making the sector tie a part-number-level fact, not a market-list claim.

NEXT STEP

Send LibertyCES the process data, not a part number.

Twenty-one dispensing equipment categories, real vendor selection data, one guide — but your actual application still has a specific material, ratio, shot size, and duty cycle that determines which platform is correct. A spec review checks the exact conditions against the exact equipment, before anything gets ordered.

Material, mix ratio, shot size, viscosity, drive type, and current equipment — that's what a real spec review needs to start.

Request a spec review

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