



# PRECISIONFLO™ LT

Simple, high performance and affordable  
closed-loop fluid metering system



SEALANTS AND ADHESIVES

# Precise and reliable metering at an affordable price



## Exceptional performance

The PrecisionFlo™ LT offers entry-level ease-of-use combined with the high performance you've come to expect from Graco® dispensing products.

This electronically-controlled fluid metering system provides precise real-time, closed-loop metering and dispensing of sealants and adhesives for automotive and industrial applications. This makes the PrecisionFlo LT first in its class for performance and price.

## PrecisionFlo LT features

- Dispenses a consistent volume of material flow
- Processes ambient and hot melt materials to 400°F (204°C)
- Processes low to high material viscosities, flow rates and shot sizes
- Four control modes: Bead Control, Volume Monitor, Batch Dispense and Pressure Control
- Simple operator interface
- Easy to use, reliable and affordable

PRECISIONFLO LT

SYSTEM FEATURES

## Key Applications

- |                 |                          |
|-----------------|--------------------------|
| Bead Dispensing | Body Panel Reinforcement |
| Gasketing       | Bonding                  |
| Seam Sealing    | Profile Wrapping         |
| Hem Flange      | Cable Filling            |
| Sound Deadening |                          |

## Key Industries

- |   |  |
|---|--|
| Automotive Assembly <ul style="list-style-type: none"><li>• Paint Shops</li><li>• Body Shops</li><li>• Stamping Plants</li><li>• Trim Shops</li></ul> | Transportation <ul style="list-style-type: none"><li>• Truck</li><li>• Bus</li><li>• RV</li><li>• Farm Equipment</li><li>• Leisure</li></ul> |
| Automotive Tiered Suppliers   | Product Assembly   |
| Appliance   | Cable  |
| Door and Window   | Woodworking  |



## System customization

It's easy to meet your application needs with a custom-configured PrecisionFlo LT system. Select from a variety of Graco manufactured control units, operation cables and fluid plates. The modular design facilitates easy integration into new or existing plants with design center/integrator packages.

## How it works

The Fluid Plate is electronically controlled by the PrecisionFlo LT control unit while consistent material flow is assured by a real-time, closed-loop pressure or closed-loop flow design.

The pneumatic regulator provides fast response to electronic commands and ensures a precisely-controlled, continuous flow of material. The module responds to automation-supplied signals to provide an accurate and consistent output flow based on a comparison of actual to desired flow rates.

## What is closed-loop technology?

It is a system that automatically adjusts the material dispense rate or pressure rate according to fluctuations in material viscosity, temperature, tip wear, and automation speed changes. It monitors the output pressure and flow, and feeds that information back as input.

## Benefits of Graco continuous flow technology

- Reduces maintenance, downtime and manufacturing costs
- U.S. Patent No. 5,847,285 volume compensating pressure regulated flow control dispensing system
- Unlimited volume, wide dispensing range
- Material on demand
- No reload time required
- Faster cycle times
- Compact size, can mount end of arm (EOA)
- Flowmeter volume verification
- Few moving parts means less maintenance
- Accuracy is material and application dependent, typically better than 2%

# SYSTEM COMPONENTS

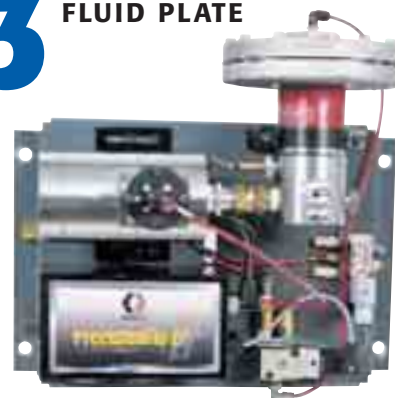
## 1 CONTROL UNIT



## 2 OPERATIONS CABLE



## 3 FLUID PLATE



# Simple to operate

## 1 Control unit

The PrecisionFlo LT control unit contains the electronics used to control the fluid module. Choose from Standard, Advanced and Automation Integrated models.

- Simplified AutoTune calibration for self-tuning of variables
- Comprehensive data management including production and fault reporting
- Ethernet and serial file transfer capability—RS232 for job and fault logs, diagnostics and software upgrades
- Global language capability—8 languages
- Maximum I/O requirements: 24 VDC Digital I/O (4/4), 0-10 VDC Analog I/O (1/1)
- Approved by ETL, ETLc, CE and TE 9000 qualified
- Regulator pre-charge for precision bead starts



### Model Selection Chart

MODEL	POWER	PROGRAMMABLE STYLES	DATA MANAGEMENT (JOB/FAULT LOGS)
Standard	On/Off Rocker Switch	1 programmable style	1000/100 downloadable
Advanced	Rotary Disconnect	16 programmable styles	1000/100 downloadable 8/8 displayed
Automation Integrated	N/A*	16 programmable styles	1000/100 downloadable

*\*This model offers the same features as the Advanced Model but does not have an electrical enclosure, rotary disconnect or EasyKey™ interface. It is protocol ready as a ModBus RTU slave with RS 232.*

## CONTROL MODES

### Four fluid dispensing control modules

#### Bead control

The control unit measures the flow rate of material being dispensed. The regulator outlet pressure is varied to control the fluid flow rate to the requested value. This is the only mode with flow control. Use this mode when a consistent bead size is desired.

#### Volume monitor

The regulator outlet pressure is controlled to the requested value. Use this mode to monitor volume while maintaining controlled pressure. Ideal for spray applications.

#### Batch dispense

The regulator outlet pressure is controlled to the requested value. The dispense valve is automatically closed when target volume is reached. Use this mode when a given set volume is desired. Often used for cartridge filling or potting applications.

#### Pressure control

The regulator outlet pressure is controlled to the requested value. Use this mode if the system does not include a flowmeter.

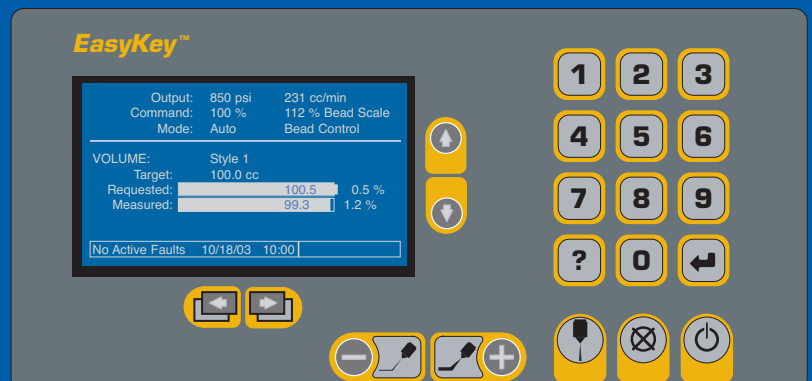


A standard 40 ft (12.2 m) **Automation/Robot I/O Cable** is included with every PrecisionFlo LT for connection from the control unit to the automation.

## EasyKey User Interface

Graco's standard EasyKey user interface offers fast and easy navigation, multiple languages and a high degree of reliability at a competitive price.

Features include an easy-to-use touchpad, simple set-up and help screens, one run screen and simple bead adjust controls.



# Low cost, efficient solutions

## 2 Operations cable

The operations cable, available in 20 ft (6.1 m), 60 ft (18.3 m) or 125 ft (38.1 m) lengths, carries signals between the fluid module and the control unit. Choose from three different cable styles based on flexibility requirements.

### HIGH FLEX CABLES

For applications such as high speed cable tracks, rolling flex and machine components in constant high speed operation.

### STANDARD FLEX CABLES

For most applications requiring increased bending flexibility.

### LOW FLEX CABLES

For pedestal or stationary applications requiring little or no flexing; pedestal applications, stationary mount.

## 3 Fluid plates and hardware

Graco offers a combination of fluid pressure regulators and flowmeters to create 10 compact, preconfigured fluid plates. Choose from cartridge or mastic regulators and Graco spur gear or helical gear flowmeters.



### PNEUMATIC REGULATORS

Every pneumatic fluid pressure regulator provides fast response to electronic commands and ensures a precisely controlled, continuous flow of material.

### AMBIENT CARTRIDGE REGULATOR

Ideal for low to medium viscosity sealants and adhesives. 5000 psi (345 bar, 34.5 MPa) maximum inlet pressure and 50 psi (3.5 bar, 0.35 MPa) minimum downstream regulated pressure.

### AMBIENT MASTIC REGULATOR

Ideal for medium to high viscosity sealants and adhesives. 5000 psi (345 bar, 34.5 MPa) maximum inlet pressure and 100 psi (7.0 bar, 0.7 MPa) minimum downstream regulated pressure.

### HEATED MASTIC REGULATOR

Ideal for low to high viscosity hot melt sealants and adhesives (400°F, 204°C). 5000 psi (345 bar, 34.5 MPa) maximum inlet pressure and 100 psi (7.0 bar, 0.7 MPa) minimum downstream regulated pressure.



Operations Cable



Cartridge Regulator



Mastic Regulator

## Flowmeters

With five meter options to choose from, the PrecisionFlo LT can be configured to perform at high or low flow rates.

### **G3000™ SPUR GEAR FLOWMETER**

Low cost spur gear meter designed for flows of 75 cc/min to 3,800 cc/min and 50 cps to 50,000 cps materials with a minimum shot size of 2.4 cc.

### **G3000HR™ HIGH RESOLUTION SPUR GEAR FLOWMETER**

Low cost spur gear meter designed for flows of 38 cc/min to 1,900 cc/min and 50 cps to 50,000 cps materials with a minimum shot size of 1.2 cc.

### **HG6000™ STANDARD HELICAL GEAR FLOWMETER**

Ideal for flows of 50 cc/min to 7,500 cc/min and 30 cps to 1,000,000 cps materials with a minimum dispensed shot size of 6 cc.

### **HG6000HR™ HIGH RESOLUTION HELICAL GEAR FLOWMETER**

Ideal for flows of 25 cc/min to 3,750 cc/min and 30 cps to 1,000,000 cps materials with a minimum dispensed shot size of 3 cc.

### **HG6000HT™ HEATED HELICAL GEAR FLOWMETER**

Ideal for flows of 50 cc/min to 7,500 cc/min and 30 cps to 1,000,000 cps materials with a minimum dispensed shot size of 6 cc.



**HG6000 Helical Gear Flowmeter**



**G3000 Spur Gear Flowmeter**

# Systems and accessories

## A complete high performance system

Graco offers a complete selection of valves, pumps and accessories designed to satisfy a full range of low- to high-pressure application components. These products are an integral part of the PrecisionFlo LT system.

### VALVES AND APPLICATORS

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#### 1K DISPENSE VALVES

Graco offers a complete line of automatic 1K valves for a wide variety of sealant and adhesive applications.

#### PRECISIONSWIRL™

The PrecisionSwirl module provides a consistent, high quality application of material in a variety of widths and patterns.

### PUMPS

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#### CHECK-MATE®

Choose from a number of basic Graco pump styles that are used for transferring sealants and adhesives to the metering system and point of dispense.

#### THERM-O-FLOW®

Graco's hot melt bulk unloaders are designed to handle hot melts of all viscosities and abrasiveness, and consistently outperform the competition.

### ACCESSORIES

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#### TEMPERATURE CONDITIONING SYSTEMS

Graco offers a variety of Temperature Conditioning Units (TCU) to minimize viscosity changes that may affect bead profile.

#### DISPENSE TIPS

Achieve proper performance of the dispense valve with a complete range of dispense tips from Graco.

#### HOSES & FITTINGS

Graco offers a wide selection of ambient and heated, low and high pressure hoses in many diameters and lengths to meet your fluid handling needs.

#### FLUID FILTERS

Graco filters are designed for maximum flow, quick element replacement, and available for high pressure and high viscosity sealants and adhesives.



1K Dispense Valve



PrecisionSwirl



Check-Mate



Therm-O-Flow 200

## Technical Specifications

Minimum flow rates*	38 cc/minute with G3000HR high resolution spur gear flowmeter
	75 cc/minute with G3000 spur gear flowmeter
	25 cc/minute with HG6000HR high resolution helical flowmeter
	50 cc/minute with HG6000 helical flowmeter (ambient/heated)
Maximum flow rates*	1900 cc/minute with G3000HR high resolution spur gear flowmeter
	3800 cc/minute with G3000 spur gear flowmeter
	3750 cc/minute with HG6000HR high resolution helical flowmeter
	7500 cc/minute with HG6000 helical flowmeter (ambient/heated)
Maximum fluid working pressure	
feed pressure to fluid plate	5000 psi (345 bar, 34.5 MPa)
at regulator outlet	4500 psi (310 bar, 31 MPa)
at regulator outlet with electric heat components	3500 psi (241 bar, 24 MPa)
Minimum fluid working pressure	
at regulator outlet	100 psi (7.0 bar, 0.7 MPa)
Air supply pressure range	60-120 psi
	(4.1- 8.3 bar, 0.4 - 0.8 MPa)
	filtration required
Fluid filtration required	30 mesh (500 micron) minimum
Viscosity range of fluids*	50 to 50000 cps with G3000 spur gear flowmeter
	30 to 1000000 cps with HG6000 helical flowmeter
Minimum dispensed shot size*	1.2 cc with G3000HR high resolution spur gear flowmeter
	2.4 cc with G3000 spur gear flowmeter
	6 cc with HG6000 helical flowmeter
	3 cc with HG6000HR high resolution helical flowmeter
V/P output	1 to 5 VDC provide 0 to 100 psi (68 MPa, 6.8 bar)
Wetted parts	
meters and fluid panels	303, 304, 321, 17- 4 stainless steel; tungsten carbide, PTFE, steel, Viton®
Power requirements	Full Load Amps - 1, Fused Amps - 2
Power supply voltage range	
120 VAC nominal	93 - 264 VAC, 50-60 Hz., single phase
Operating temperature range	
Controller	40° - 122° F (4° - 50° C)
Fluid panel	40° - 400° F (4° - 204° C)
Operating humidity range	0 - 90% non-condensing

\*Flow rates and viscosities are general estimates. Flow rates drop as viscosity increases. Fluids are expected to shear under pressure. New applications or fluids should always be tested to determine proper line sizes and equipment selections.

See your Graco Authorized distributor for other capabilities.

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