



# PRECISIONFLO™ LT

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



**SEALANTS AND ADHESIVES**

PROVEN QUALITY. LEADING TECHNOLOGY.

# 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

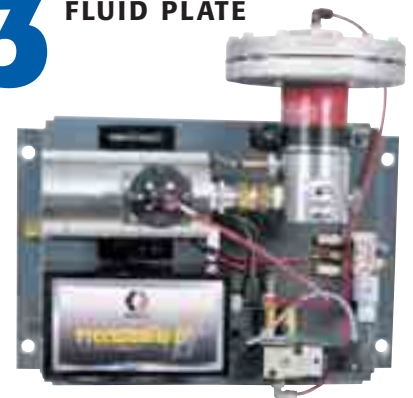
## 1 CONTROL UNIT



## 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.*

### 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.

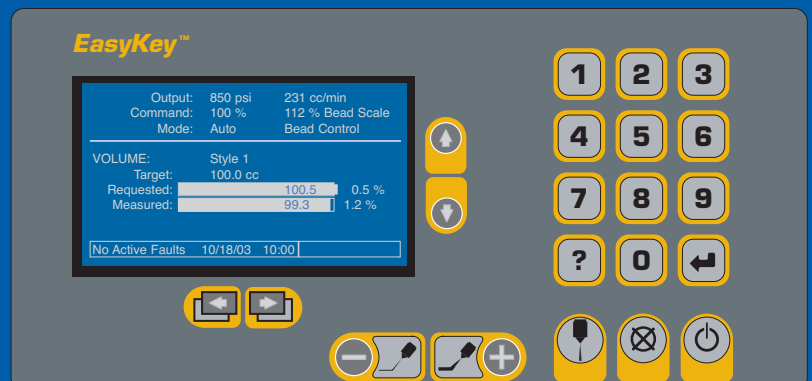


A standard 40 ft (12.2 m) **Automation/Robot I/O Cable** is included with every PrecisionFlo LT for connection from the control unit to the automation.

## 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



# Return-on-investment

Use this exclusive return-on-investment tool to see how much you can save annually by implementing a PrecisionFlo LT unit into your process. The actual field example below is based on replacing a manual operation with PrecisionFlo LT.

	ACTUAL FIELD EXAMPLE		ACTUAL ESTIMATE	
	Field Example	PrecisionFlo LT	Enter Your Information Here	PrecisionFlo LT
Labor	240,000	40,000	<input type="text"/>	<input type="text"/>
Material	17,500	7,500	<input type="text"/>	<input type="text"/>
Waste Disposal	10,000	0	<input type="text"/>	<input type="text"/>
Quality*	84,000	0	<input type="text"/>	<input type="text"/>
Maintenance	5,000	NA	<input type="text"/>	<input type="text"/>
	<b>\$356,500</b>	<b>\$47,500</b>		
<b>Total Annual Savings</b>	<b>\$309,000</b>		<b>Your Savings</b>	<input type="text"/>

\*Nonconformance and rework costs.

## Your complete application solution provider

Graco is in the business of providing turn-key solutions to meet and exceed the demands of your every application. Our sealant and adhesive division is known not only for high quality components, but for providing industry solutions. The PrecisionFlo LT is no exception – offering entry-level ease-of-use and precise metering at an affordable price.

A custom-configured PrecisionFlo LT system makes it easy to meet almost any application need. Not only are there numerous advantages to choosing Graco’s continuous flow technology, the precise real-time, closed-loop metering and dispensing technology makes the PrecisionFlo LT first in its class for performance and price for automotive and industrial sealant and adhesive applications.

For more information visit [www.graco.com](http://www.graco.com) or contact your local authorized Graco Distributor or Graco Sales Specialist for a product catalog.

# 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.

Viton® is a registered trademark of the DuPont Company.

# Ordering Information

## PrecisionFlo LT Recommended Spare Parts

### Accessories

- 234282** Advanced control manual set in binder
- 234283** Standard control manual set in binder
- 117782** Power Supply
- 246496** Board, Circuit Assembly, High Temp. Press Sensor
- 246517** Board, Circuit Assembly, Ambient Press Sensor
- 115216** Fuses
- 117764** Sensor, Pressure, Assembly, High Temp.
- 246786** Sensor, Pulse, Helical
- 239717** Sensor, Flow, Ambient
- 198082** Sensor, Pressure, Ambient
- 118342** Kit, Accessory, Communications Cable
- 195942** V/P
- 115714** Filter, V/P

### Control Parts and Accessories

- 253619** PFLO LT Control Board Assembly, Adv.
- 253620** PFLO LT Control Board Assembly, Std.
- 117688** Kit, Accessory, Interface, & Board, Adv.
- 117788** Kit, Accessory, Interface & Board, Std.
- 117790** Power Supply, 5V Inverter
- 117818** Key, Replacement
- 116728** Key, Set-Up
- 118329** Ethernet Kit
- 118337** Kit, Backlight Repair
- 117762** LED, Red
- 117763** LED, Green
- 117689** E-Stop
- 116320** Power Switch Rocker
- 116653** Rotary Disconnect
- 253611** Chip Set, CNTRL & Display, Adv.
- 253614** Chip Set, CNTRL & Display, Std.
- 234625** 6 Relay Control Box – This is a separate control box that connects the PrecisionFlo LT I/O cable to a 120V robot I/O cable.
- 234626** 9 Relay Control Box – This is a separate control box that connects the PrecisionFlo LT I/O cable to a 120V robot I/O cable. Includes all connections of 234625 and in addition connections for Minimum volume dispensed, E-stop switch and Fault present.

- 234627** DeviceNet Control Box – This is a separate control box that connects the PrecisionFlo LT I/O cable to a DeviceNet robot I/O cable.
- 234976** PrecisionFlo LT/Plus Combo Box – This is a separate control box that connects the PrecisionFlo LT I/O cable to an existing PrecisionFlo Plus I/O cable. It should be used when upgrading an existing PrecisionFlo Plus controller to a PrecisionFlo LT.

### Operation Cables

- 198731** Cable, High Flex Operation, 20 ft (6.1 m)
- 198296** Cable, High Flex Operation, 60 ft (18.3 m)
- 198732** Cable, High Flex Operation, 125 ft (38.1 m)
- 117751** Cable, Standard Flex Operation, 20 ft (6.1 m)
- 117752** Cable, Standard Flex Operation, 60 ft (18.3 m)
- 117753** Cable, Standard Flex Operation, 125 ft (38.1 m)
- 117747** Cable, Low Flex Operation, 20 ft (6.1 m)
- 117748** Cable, Low Flex Operation, 60 ft (18.3 m)
- 117749** Cable, Low Flex Operation, 125 ft (38.1 m)
- 234191** Cable, Heated Pressure Sensor
- 117774** Cable, robot analog, 40 ft (12.2 m)
- 120182** Cable, robot analog, 100 ft (30.5 m)
- 118342** Interface cable kit, PrecisionFlo LT to personal computer

### Filters and Accessories

- C59725** Dual filter bank with gauges, ball and drain valves, 30 mesh element, 5000 psi, (345 bar, 34.5 MPa) 1 in
- C59547** Single filter kit, gauges, ball and drain valves, 30 mesh element
- C58997** Fluid filter, polyethylene support, no element from above kits
- 515222** 30 mesh filter screen, for C58997 filter
- 157630** Spring, filter
- 521477** Fluid shutoff valve, 1 in npt(f), 5,000 psi (345 bar, 34.5 MPa) CS, Viton
- 210657** Ball valve, high pressure, 1 in npt(m), 5000 psi, (345 bar, 34.5 MPa) CS, Viton
- 210658** Ball valve, high pressure, 3/8 in npt(m), 5000 psi, (345 bar, 34.5 MPa) CS, Viton
- 210659** Ball valve, high pressure, 3/8 in x 1 in npt(m), 5000 psi, (345 bar, 34.5 MPa) CS, Viton
- 234967** Dual air filter assembly, 5/.3 micron filter to be used for inlet air to fluid plate

# Ordering Information

## Recommended Spare Parts, continued

### Fluid Plate Parts and Accessories

- 246642** Mastic regulator, 3/4 in, air operated, for ambient fluid plates with transducer ports
- 246643** Mastic regulator, 3/4 in, air operated, for heated fluid plates with transducer ports
- 244734** Cartridge regulator with transducer ports for fluid plates
- 238748** Repair kit, cartridge regulator
- 238747** Fluid diaphragm repair kit, cartridge regulator
- 233131** Fluid section repair kit, mastic fluid regulator
- 246190** Flowmeter, HG6000 ambient helical with sensor
- 234134** Flowmeter, HG6000 ambient helical, without sensor
- 246652** Flowmeter, HG6000HR high resolution helical, with sensor
- 246650** Flowmeter, HG6000HR high resolution helical, without sensor
- 246340** Flowmeter, HG6000HG heated helical, with sensor
- 246191** Flowmeter, HG6000HR heated helical, without sensor
- 246786** Sensor, HG6000 helical flowmeter, all models
- 239716** Flowmeter assembly, G3000 spur gear flowmeter and sensor
- 239719** Flowmeter, G3000 spur gear flowmeter, does not include sensor
- 244292** Flowmeter assembly, G3000HR high resolution spur gear flowmeter and sensor
- 244291** Flowmeter, G3000HR high resolution spur gear flowmeter, does not include sensor
- 239717** Sensor, G3000 and G3000HR spur gear flowmeter
- 198082** Pressure sensor, outlet for ambient regulators
- 117764** Pressure sensor, outlet for heated regulators
- 198579** Kit, cable, for adding HG6000 helical flowmeter
- 198578** Kit, cable, for adding G3000 spur gear flowmeter
- 15D877** Mass flowmeter, non-intrusive
- 246596** Kit, HG6000 helical gear set repair (standard and heated)
- 246949** Kit, HG6000HR helical gear set repair (high resolution)

### Fluid Plates

- 234168** Fluid Plate, Ambient Cartridge Regulator with no flowmeter
- 234165** Fluid Plate, Ambient Cartridge Regulator with a G3000 spur gear flowmeter
- 234166** Fluid Plate, Ambient Cartridge Regulator with a G3000HR high resolution spur gear flowmeter
- 234167** Fluid Plate, Ambient Cartridge Regulator with HG6000 helical flowmeter
- 234195** Fluid Plate, Ambient Cartridge Regulator with HG6000HR high resolution helical flowmeter
- 234170** Fluid Plate, Ambient Mastic Regulator with no flowmeter
- 234169** Fluid Plate, Ambient Mastic Regulator with HG6000 helical flowmeter
- 234196** Fluid Plate, Ambient Mastic Regulator with HG6000HR high resolution helical flowmeter
- 234193** Fluid Plate, Heated Mastic Regulator with no flowmeter
- 234194** Fluid Plate, Heated Mastic Regulator with HG6000 helical flowmeter

## Applicators and Repair Kits

- 918533** Dispense Valve, Extrusion, Ambient, Ball Seat
- 918535** Dispense Valve, Extrusion, Ambient, Snuff Back
- 918537** Dispense Valve, High Viscosity
- 918539** Dispense Valve, Extrusion, High Flow, High Viscosity
- 918623** Compact Dispense Valve, Extrusion
- 918625** Compact Dispense Valve, Spray
- 233670** AutoPlus SAE valve
- 244930** Manifold, Fluid Inlet, AutoPlus SAE valve
- 243482** 1K Ultra-Lite valve, 45° outlet for orbiter
- 243666** 1K Ultra-Lite valve
- 965766** 1K Ultra-Lite valve, machine mount, SST wetted parts
- 965786** 1K Ultra-Lite valve, machine mount, Aluminum wetted parts
- 244535** EnDure Valve replacement, no manifold
- 244910** EnDure Valve with ambient or temperature conditioning manifold
- 244961** EnDure Valve with 120 volt electric heat (200°F/93.3°C)
- 244962** EnDure Valve with 230 volt electric heat (200°F/93.3°C)
- 239807** Needle assembly, AutoPlus SAE valve
- 233671** Seat, AutoPlus SAE valve
- 189970** Gasket, AutoPlus SAE valve, seat
- 192443** Gasket, AutoPlus SAE valve, inlet
- 114134** Gasket, AutoPlus SAE valve, inlet air
- 570267** Fluid Section Seal kit, 1K Ultra-Lite valve
- 570268** Rebuild kit, 1K Ultra-Lite valve
- 245195** Standard seal kit, EnDure valve
- 245196** High temperature seal kit, EnDure valve
- 104661** Quick exhaust valve, 1/8 in npt(f)
- 244021** Cable kit, 8 pin connector and 10 ft cable for 240 VAC valves

## Recommended Accessories for PrecisionSwirl

- 241658** **Orbital Applicator Module Kit (wide pattern)**  
Swirl orbiter (243403), motor cable (617870), extension motor cable (233123), control panel (918616) and Robot Interface Cable Assembly (617829)
- 234029** **Orbital Applicator Module (narrow pattern)**  
Swirl orbiter (243402), motor cable (617870), extension motor cable (233123), control panel (918616) and Robot Interface Cable Assembly (617829)

### Swirl Dispense Tips

Part No.	Size	Part No.	Size
<b>918610</b>	0.012	<b>918611</b>	0.035
<b>918601</b>	0.015	<b>918612</b>	0.039
<b>918603</b>	0.019	<b>918613</b>	0.043
<b>918605</b>	0.023	<b>918614</b>	0.047
<b>918607</b>	0.027	<b>241813</b>	0.051
<b>918608</b>	0.031	<b>241814</b>	0.055
		<b>241816</b>	0.070

# Ordering Information

## Dispense Valves

- 243666** 1K Ultra-Lite Dispense Valve, straight  
For 1K Ultra-Lite straight connection.
- 243482** 1K Ultra-Lite Dispense Valve, 45 deg  
For 1K Ultra-Lite 45 deg connection.

For Endure straight connection, order:

- 244910** Endure (ambient or water conditioned)  
**197504** Straight flange adapter, EnDure

For Endure 45 deg connection, order:

- 244910** Endure (ambient or water conditioned)  
**198323** Alternative orbiter nut  
**197842** 45 deg nosepiece  
**198324** Nosepiece to orbiter fitting

## Swirl Dispenser

- 243402** Tool-Mounted Dispensers  
With narrow pattern coupler (0.012 in [0.3 mm])
- 243403** Tool-Mounted Dispensers  
With narrow pattern coupler (0.028 in [0.7 mm])

## Motor Extension Cable

- 233123** 15 ft (4.6 m)  
**233124** 9 ft (2.7 m)  
**233125** 6 ft (1.8 m)  
Connects PrecisionSwirl orbital applicator to  
motor cable.

## Motor Cable

- 617870** **Motor Cable, 55 ft (16.8 m)**  
Connects PrecisionSwirl control panel to extension  
cable or directly to orbital applicator.
- 198730** **Motor Cable, 110 ft (33.6 m)**  
Connects PrecisionSwirl control panel to extension  
cable or directly to orbital applicator.

## Controller

- 918616** **PrecisionSwirl Control Assembly**  
Bare model only. Order appropriate cables to connect  
to dispenser.
- 617829** **Robot Interface Cable, 40 ft (12.2 m)**  
Connects PrecisionSwirl control panel to robot control  
panel. Accepts a 0-10 volt signal to adjust RPM.

## Swirl Dispenser Accessories

- 196039** **Small Profile Retainer**  
Replaces standard nozzle guard. Allows easier  
access to tight locations.
- 196160** **Teach Adapter**  
Replaces nozzle guard during robot path teaching.
- 15D259** **Swirl Control Cable Support**  
Add to the orbiter assembly if extreme stresses are being  
applied to the motor control cable.

## Repair Kits

- 241479** **Swirl Motor Assembly**  
Order bearing and coupler separately.
- 918620** **Swirl Tube**
- 241569** **Tool Kit**  
Includes various tools required for servicing the  
Swirl applicator and tube bearing.
- 241466** **Tube Bearing Coupler Assembly**  
Wide pattern tool kit (241569) required for replacement.

- 243256** **Tube Bearing Coupler Assembly**  
Narrow pattern tool kit (243256) required for  
replacement.

- 246292** **Tube Support Bearing Repair Kit**  
With wide-pattern coupler. Includes 241466, O-ring, seal,  
and tube assembly.

- 246293** **Tube Support Bearing Repair Kit**  
With narrow-pattern coupler. Includes 243256, O-ring,  
seal, and tube assembly.

- 15B619** **Bellows Seals**  
Qty: 1 – Viton®

- 246290** **Bellows Seal Kit**  
Qty: 12 – Viton

## Extruding Applications

- 198316** Nozzle nut, 1/8 in npt for AutoPlus SAE valve
- 198391** Tip nut, AutoPlus SAE valve, fan or stream
- 617585** Nozzle nut for streaming tips, EnDure valve
- 197504** Straight 3/4-16 JIC outlet for swirl, EnDure valve
- 197842** Nozzle, 45° nose piece, orbiter to EnDure valve
- 198323** Adapter, 45° orbiter to EnDure
- 198324** Fitting, 45° orbiter to EnDure
- 607665** Dispense nozzle, steel, 1/8 in npt(m), 0.125 in  
(3.18 mm), 2 ft (0.6 m) long
- 161505** Dispense nozzle, steel, 1/8 in npt(m), 0.094 in  
(2.39 mm), 2 ft (0.6 m) long
- 164799** Dispense nozzle, steel, 1/8 in npt(m), 0.055 in  
(1.4 mm), 2.12 ft (0.64 m) long
- C17009** Dispense nozzle, steel, 1/8 in npt(m), 0.125 in  
(3.18 mm), 1.22 ft (0.36 m) long
- C01025** Dispense nozzle, steel, 1/8 in npt(m), 0.9 in x 0.37 in  
(22.86 mm x 9.40 mm) ribbon hardened tip, 2.43 in  
(61.72 mm) long
- 182xxx** Airless 182xxx fan tips for AutoPlus SAE valve; refer to  
manual form number 308813
- 270025** Streaming tip, 0.025 (0.64 mm) orifice
- 270027** Streaming tip, 0.027 (0.69 mm) orifice
- 270029** Streaming tip, 0.029 (0.74 mm) orifice
- 270035** Streaming tip, 0.035 (0.89 mm) orifice
- 270037** Streaming tip, 0.037 (0.94 mm) orifice
- 270039** Streaming tip, 0.039 (0.99 mm) orifice
- 270041** Streaming tip, 0.041 (1.04 mm) orifice
- 270043** Streaming tip, 0.043 (1.09 mm) orifice
- 270059** Streaming tip, 0.059 (1.50 mm) orifice
- C08224** Shower tip, 6 orifices, 0.021 in (0.53 mm)  
orifice size

Viton is a registered trademark of DuPont.

# Ordering Information

## Dispense Hose and Feed Hose

Dispense Hose (from fluid plate to valve) and Feed Hose (from pump to fluid plate) Selection

Part Number	Type	Material	ID inches (mm)	Length (ft) feet (m)	Coupling	Pressure psi (MPa, bar)
109150	Dispense	Buna-N	0.25 (6)	6 (1.8)	1/4M	5000 (34.5, 345)
H52506	Dispense	Nylon	0.25 (6)	6 (1.8)	1/4F	5600 (38.6, 386)
685612	Dispense	PTFE	0.25 (6)	6 (1.8)	1/4M SS	4000 (27.6, 276)
H52510	Dispense	Nylon	0.25 (6)	10 (3)	1/4F (npt)	5600 (38.6, 386)
109151	Dispense	Buna-N	0.25 (6)	12 (3.7)	1/4M	5000 (34.5, 345)
685614	Dispense	PTFE	0.25 (6)	15 (4.6)	1/4M SS	4000 (27.6, 276)
H43803	Dispense	Nylon	0.375 (10)	3 (0.9)	3/8F (npt)	4500 (31, 310)
109163	Dispense	Buna-N	0.375 (10)	6 (1.8)	3/8M	4000 (27.6, 276)
H43806	Dispense	Nylon	0.375 (10)	6 (1.8)	3/8F (npt)	4500 (31, 310)
H53806	Dispense	Nylon	0.375 (10)	6 (1.8)	3/8M	5600 (38.6, 386)
H53810	Dispense	Nylon	0.375 (10)	10 (3)	3/8F (npt)	5600 (38.6, 386)
109165	Dispense	Buna-N	0.375 (10)	15 (4.6)	1/4M	4000 (27.6, 276)
685602	Dispense	PTFE	0.375 (10)	15 (4.6)	3/8M SS	4000 (27.6, 276)
626720	Dispense or Feed	Buna-N*	0.50 (13)	5 (1.5)	1/2M	5000 (34.5, 345)
215445	Dispense or Feed	Buna-N	0.50 (13)	5 (1.5)	1/2M	5250 (36.2, 362)
626723	Dispense or Feed	Buna-N*	0.50 (13)	6 (1.8)	1/2M	5000 (34.5, 345)
116760	Dispense or Feed	Neoprene	0.50 (13)	6 (1.8)	7/8F	4000 (27.6, 276)
235199	Dispense or Feed	Nylon	0.50 (13)	6 (1.8)	1/2M	5000 (34.5, 345)
626721	Dispense or Feed	Buna-N*	0.50 (13)	10 (3)	1/2M	5000 (34.5, 345)
215441	Dispense or Feed	Buna-N	0.50 (13)	10 (3)	1/2M	5250 (36.2, 362)
116761	Dispense or Feed	Neoprene	0.50 (13)	10 (3)	7/8F	4000 (27.6, 276)
H55010	Dispense or Feed	Nylon	0.50 (13)	10 (3)	1/2M	5600 (38.6, 386)
C12380	Dispense or Feed	Buna-N	0.50 (13)	15 (4.6)	1/2M	6015 (41.5, 415)
511381	Dispense or Feed	PTFE	0.50 (13)	15 (4.6)	1/2M SS	5000 (34.5, 345)
626722	Dispense or Feed	Buna-N*	0.50 (13)	25 (7.6)	1/2M	5000 (34.5, 345)
215443	Dispense or Feed	Buna-N	0.50 (13)	25 (7.6)	1/2M	5250 (36.2, 362)
H45025	Dispense or Feed	Nylon	0.50 (13)	25 (7.6)	1/2M	4500 (31, 310)
H55025	Dispense or Feed	Nylon	0.50 (13)	25 (7.6)	1/2M	5000 (34.5, 345)
215444	Dispense or Feed	Buna-N	0.50 (13)	50 (15.2)	1/2M	5250 (36.2, 362)
H55050	Dispense or Feed	Nylon	0.50 (13)	50 (15.2)	1/2M	5600 (38.6, 386)
215241	Feed	Buna-N	0.75 (19)	6 (1.8)	3/4M	5000 (34.5, 345)
685605	Feed	PTFE	0.75 (19)	6 (1.8)	3/4M SS	4000 (27.6, 276)
215238	Feed	Buna-N	0.75 (19)	10 (3)	3/4M	5000 (34.5, 345)
626724	Feed	Buna-N*	0.75 (19)	10 (3)	3/4M	5000 (34.5, 345)
685606	Feed	PTFE	0.75 (19)	10 (3)	3/4M SS	4000 (27.6, 276)
215239	Feed	Buna-N	0.75 (19)	15 (4.6)	3/4M	5000 (34.5, 345)
626725	Feed	Buna-N*	0.75 (19)	15 (4.6)	3/4M	5000 (34.5, 345)
685607	Feed	PTFE	0.75 (19)	15 (4.6)	3/4M SS	4000 (27.6, 276)
215240	Feed	Buna-N	0.75 (19)	25 (7.6)	3/4M	5000 (34.5, 345)
626726	Feed	Buna-N*	0.75 (19)	25 (7.6)	3/4M	5000 (34.5, 345)
511387	Feed	PTFE	0.75 (19)	25 (7.6)	3/4M SS	4000 (27.6, 276)
C12383	Feed	Buna-N	1.00 (25)	10 (3)	1" M	5000 (34.5, 345)
C12217	Feed	Neoprene	1.00 (25)	15 (4.6)	1 npt SS	5000 (34.5, 345)
C12218	Feed	Neoprene	1.00 (25)	20 (6.1)	1 npt SS	5000 (34.5, 345)
521973	Feed	Buna-N	1.25 (32)	10 (3)	1-1/4M	5000 (34.5, 345)
51B352	Feed	Buna-N	1.25 (32)	15 (4.6)	1-1/4M	5000 (34.5, 345)

\*Dried Hose capped with desiccant.

# Ordering Information

## 240 Volt Electric Heat Hose Selection

Heating element - fiberglass insulated, 230/240 VAC, 50 watts per hose foot

Part Number	Type	Material	ID inches (mm)	Length feet (m)	Coupling	Pressure psi (MPa, bar)
115875	Dispense or Feed	PTFE	0.50 (13)	6 (1.8)	7/8-14 JICF SS	3000 (20.7, 207)
115876	Dispense or Feed	PTFE	0.50 (13)	10 (3)	7/8-14 JICF SS	3000 (20.7, 207)
115903	Dispense or Feed	PTFE	0.62 (16)	6 (1.8)	1 1/16-12 JICF SS	3000 (20.7, 207)
115880	Dispense or Feed	PTFE	0.62 (16)	10 (3)	1 1/16-12 JICF SS	3000 (20.7, 207)
115885	Feed	PTFE	0.87 (22)	10 (3)	1 5/16-12 JICF SS	3000 (20.7, 207)
115887	Feed	PTFE	0.87 (22)	20 (6.1)	1 5/16-12 JICF SS	3000 (20.7, 207)
117821	Feed	PTFE	1.13 (29)	10 (3)	1 5/8-12 JICF SS	3000 (20.7, 207)
117882	Feed	PTFE	1.13 (29)	15 (4.6)	1 5/8-12 JICF SS	3000 (20.7, 207)

## Temperature Conditioning Equipment

### Automotive Temperature Control Units

- 118404** HO3000 heat only 480/60 GND (standalone)\*
- 118406** SC2000 heat/cool 480/60 GND (standalone)\*

### Industrial Temperature Control Unit

- 118405** HO1800 heat only 120/60 GND (standalone)\*

### Heat Transfer Options

- 233731** 1 in x 20 ft 5000 psi water jacketed hose assembly featuring aluminum blocks and one 4-pass plastic manifold
- 117349** 2-in diameter x 30 in length heat exchanger assembly
- 15D509** 3-in diameter x 36 in length heat exchanger assembly

### RTD & Extension Cable

- 198457** RTD 1/8 x 13/16 x 1/8 in MPT Picofast connector
- 198458** RTD cable x A18
- 198490** 70 ft extension cable with 3-prong mini round connector
- 120407** RTD Sensor

### Fluid Plate Water Jacketed Insulated Covers

- 118407** Water jacketed insulated cover for 1/2 in cartridge regulator
- 118408** Water jacketed insulated cover for 3/4 in mastic regulator
- 118410** Water jacketed insulated cover for G3000 flowmeter
- 118411** Water jacketed insulated cover for Graco helical gear meter

### Dispense Hose Covers

- 118440** 5.5-in diameter x 24 in length water jacketed blue Velcro closure cover with 4 clear tubes
- 118441** 5.5-in diameter x 36 in length water jacketed blue Velcro closure cover with 4 clear tubes
- 118442** 5.5-in diameter x 48 in length water jacketed blue Velcro closure cover with 4 clear tubes
- 118443** 5.5-in diameter x 60 in length water jacketed blue Velcro closure cover with 4 clear tubes
- 116770** 5.5-in diameter x 72 in length water jacketed blue Velcro closure cover with 4 clear tubes
- 116769** 5.5-in diameter x 120 in length water jacketed blue Velcro closure cover with 4 clear tubes

### Insulation Only Covers for Electrical Heat Option

- 118409** Insulation only cover for 3/4 in electrically heated mastic regulator
- 118412** Insulation only cover for electrically heated helical gear meter

### Graco Viscon High Output Fluid Heating Systems

- 245867** Fluid Heater, Viscon HP, 120 VAC, 2300 watts, 19.2 amps
- 245869** Fluid Heater, Viscon HP, 240 VAC, 4000 watts, 16.7 amps
- 246276** Fluid Heater, Viscon HP, 380 VAC, 4000 watts, 10.5 amps
- 245870** Fluid Heater, Viscon HP, 480 VAC, 4000 watts, 8.3 amps
- 192585** Mounting Bracket, US version
- 183982** Mounting Bracket, European version
- 245866** Heated Hose Kit (Tank, Pump, Tubes)

Note: \* All TCU's include 50 ft of water hose, hose clamps, tube fittings, 4-pass water manifold, 1 pint of water conditioner, and instruction manual

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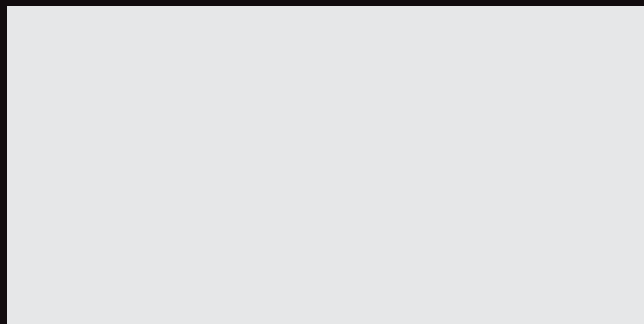
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