



PrecisionSwirl™

Electric Orbital Applicator for Sealants and Adhesives

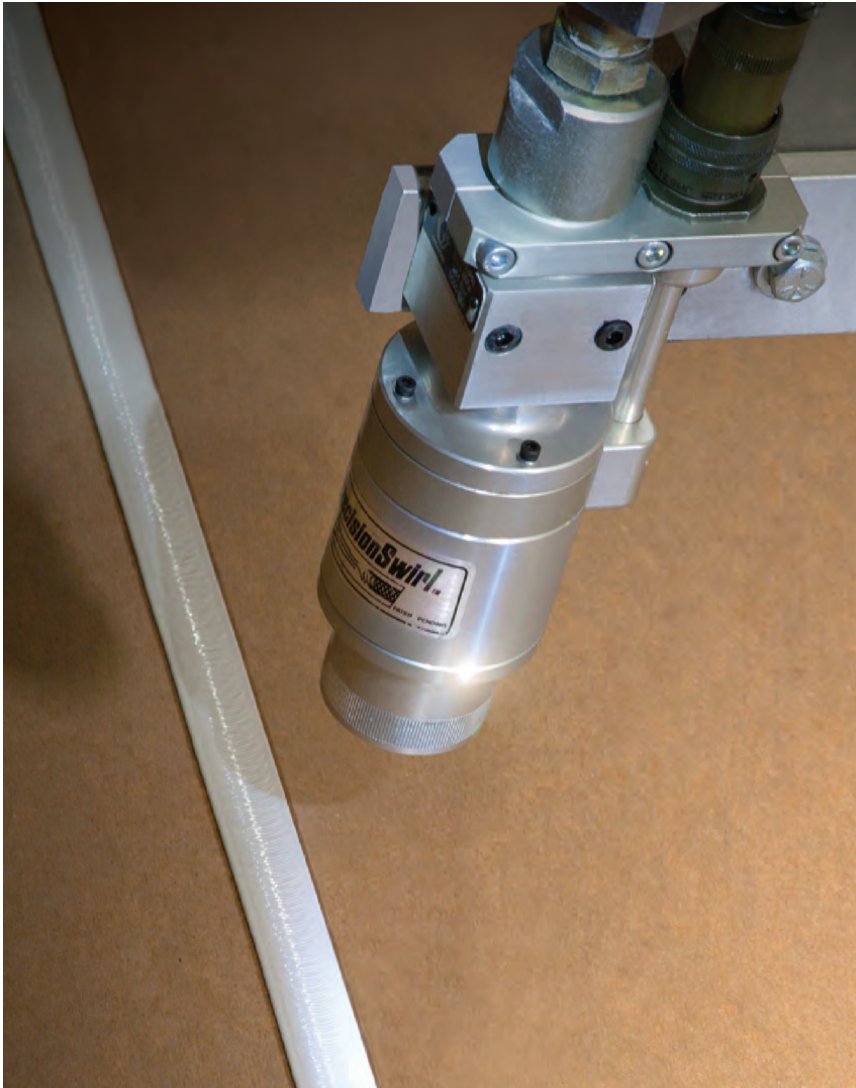


Exclusive Graco PrecisionSwirl technology provides consistent results

- Applies a uniform, circular loop pattern with clean edges and no mess
- Dispenses open or closed, wide or narrow pattern beads for a variety of applications
- Reduces downtime – virtually no tip plugging with PrecisionSwirl's large tip sizes
- Simplifies robotics programming for directional changes
- An orbiting nozzle allows you to apply material on vertical and horizontal surfaces
- Reduces manual touch-up, masking and rework

PROVEN QUALITY. LEADING TECHNOLOGY.

Graco Reliability. Industry-Proven Accuracy.



PrecisionSwirl applicator technology delivers material consistently

PrecisionSwirl accurately applies a continuous swirled bead of material exactly where you want it, even in confined spaces. Because of its accurate dispense, you use less material and save money.

PrecisionSwirl technology improves your process to minimize associated rework, repair or scrap.

Get the full coverage and control you need with PrecisionSwirl.

Key Applications



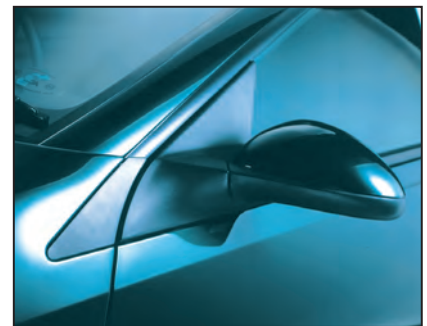
- PVC Seam Sealing
- Hem Flange Adhesive Bonding
- Structural Adhesive Bonding
- After Hem Sealing
- Liquid Mask Sealing
- Liquid Applied Sound Deadening
- Window Glazing

Key Industries



- Automotive:
- Paint Shops • Body Shops • Stamping Plants
- Automotive Tiered Suppliers
- Appliance
- Door and Window
- Transportation:
- Truck • Bus • RV • Farm Equipment

Key Fluids Handled



- PVC Plastisol
- Expandable Sealers
- Heat Cure Epoxy
- Waterborne Sound Deadeners
- Epoxy Sound Deadeners
- Liquid Masking

Swirl applicator

PrecisionSwirl lets you adjust rotational speed and control flow rate with a Graco PCF™ Metering System for greater control. Working at pressures up to 3500 psi (240 bar), the applicator dispenses a wide, flat bead onto the seam, creating a more resilient seal or adhesive bond – even in irregularly shaped parts.

Swivel Union

- Allows optimal valve and orbiter orientation for each installation

Aluminum Housing with Tool Mounts

- Precise repeatable installation
- No expensive robot reprogramming after servicing
- Light-weight for rapid application rates and minimal robot loading

No Dynamic Seals on Applicator

- High reliability and minimal downtime
- Maximizes production time

Orbiting Nozzle

- Applies an accurate bead of material on vertical and horizontal surfaces
- Three offset options for varied bead widths

Round Orifice Carbide Tips

- Reduces tip wear
- No need for alignment after servicing for better uptime



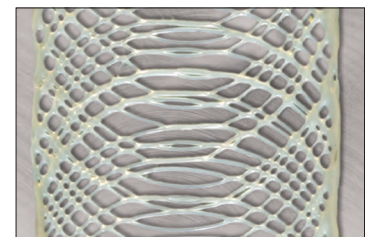
EnDure® Valve

- Snuff-back gives a clean cut-off in the end of the bead

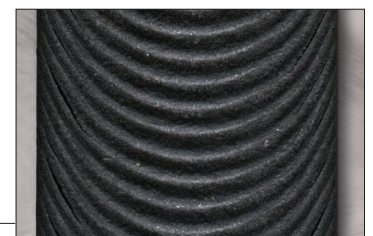
Brushless DC Motor and Sealed Bearings

- Maintains rotational speeds up to 24,000 rpm for maximum application rates
- Provides exceptional pattern control compared to air-driven alternatives

Smooth Neat Consistent Beads



Open Bead



Closed Continuous Bead

Intuitive Advanced Controls for Ease of Use



Flexible configurations

PrecisionSwirl can be configured using a stand-alone module or integrated into the Graco PCF Metering System as an automated system.

Stand-alone control

- Active speed control provides consistent application bead profiles
- Simple user interface and connectivity provide easy system start-up
- Lets you monitor and control swirl application on a large graphic display
- Gateway Modules allow the system to communicate with other systems within your manufacturing process – Discrete, PROFINET™, PROFIBUS™, EtherNet/IP™ or DeviceNet™

PCF Metering System with integrated PrecisionSwirl

- Complete metering and dispensing solution in one package
- Simplifies use and application commissioning
- Single source for electrical and communications which minimizes installation costs
- Full system control on a large graphic display

Compare PrecisionSwirl to flat stream and competitive air swirl alternatives

With hundreds of global installations and proven industry experience, PrecisionSwirl is simply the best choice for increased productivity and improved efficiency.

- Consistent and reliable in high production environments
- Exceptional pattern control, uniform bead profile and consistent coverage
- Cost savings in material usage compared to flat stream and air swirl technologies



COMPETITIVE AIR SWIRL



PRECISIONSWIRL

Technical Specifications

Control Panel

Input power	100-240 VAC, 50/60 Hz, 1 phase or 24 Vdc
Output power	PWM control of the motor
Automatic control analog input (speed adjustment)	0-10 Vdc
Weight	30 lbs (13.6 kg)

Swirl Orbital Applicator

Input power	Proprietary PWM control of the motor
Minimum motor speed	6,600 rpm
Maximum motor speed	24,000 rpm
Maximum operating pressure	3500 psi (24.1 MPa, 241 bar)
Fluid inlet	3/4-16-in 37° JIC female swivel
Wetted parts	Stainless steel, nickel alloy, brazing alloy, epoxy, EPDM rubber
Noise level	Sound pressure level – 67 dBA
Weight	1.6 lbs (0.7 kg)

Temperature Conditioned Dispense Valve

Maximum fluid working pressure	3500 psi (24 MPa, 241 bar)
Maximum working dry air pressure	150 psi (1 MPa, 10 bar)
Material inlet (to conditioning manifold)	1/2 npt
Air inlet	1/8 npt(m)
Conditioning fluid inlet/outlet	(2 ports) 1/4 npt (4 ports) 1/8 npt
Wetted parts	Stainless steel, aluminum, UHMWPE, Fluoroelastomer, black oxide coated CS, Hytrel elastomer
Maximum temperature rating	140°F (60°C)
Weight (approximate)	4.4 lbs (2 kg)

Instruction manuals

PrecisionSwirl System Manual	3A1935
PrecisionSwirl Orbital Dispenser	309403
Graco PCF Metering System with PrecisionSwirl System Manual	3A2098



Standard Version



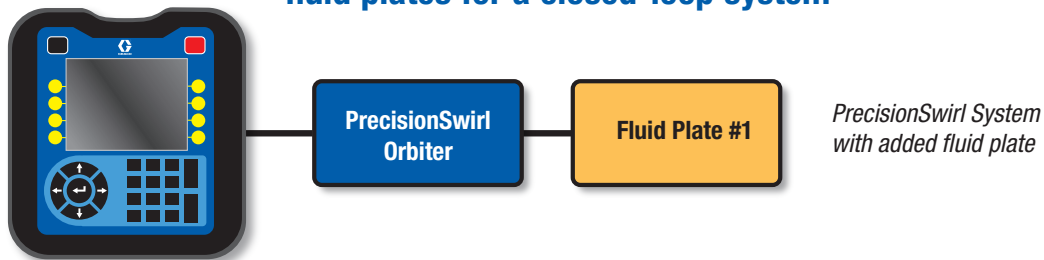
Compact Version

Upgrade the control system for your PrecisionSwirl

Graco PCF Metering System offers consistent material flow through closed-loop technology

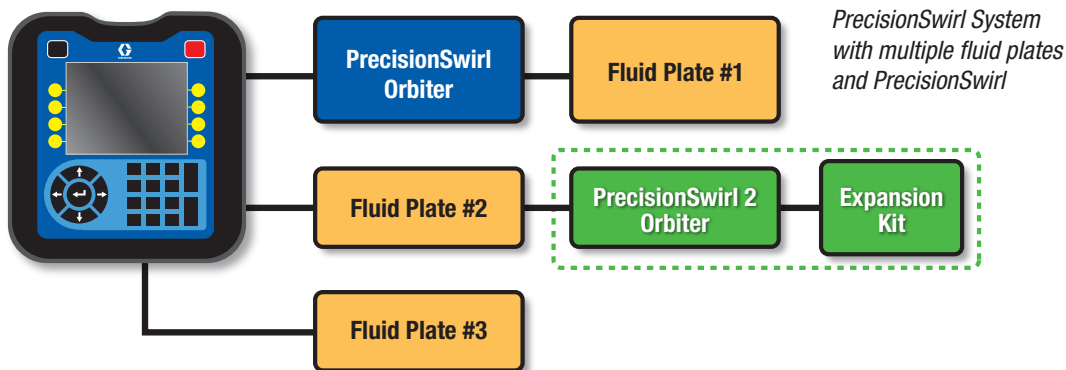
The PCF Metering System monitors the fluid stream, and adjusts for changes in material temperatures, viscosities, dispense rates or robot speeds. Real-time adjustments enable the Graco PCF to deliver a highly precise, continuous dispense. The standard control center of the Graco PrecisionSwirl System makes it easy for manufacturers to enhance their PrecisionSwirl Technology with a fully functional precision continuous flow system.

The Control Center can be integrated with fluid plates for a closed-loop system



PrecisionSwirl System with added fluid plate

- Integrated PrecisionSwirl allows for full control in a single system



PrecisionSwirl System with multiple fluid plates and PrecisionSwirl

- Operates additional PrecisionSwirl applicators with optional PrecisionSwirl Expansion Kit

■ Fluid plates are optional (sold separately) - - - - - Optional (sold separately)

How to upgrade your PrecisionSwirl controls to a PCF

Requirements

- Software upgrade kit – 16N590
- Fluid plate(s)

Part numbers for independent fluid plates*

Cartridge Regulator

24B959	2 styles, no flow meter
24K802	16 styles, no flow meter
24K809	256 styles, no flow meter
24B958	2 styles, high resolution meter
24K801	16 styles, high resolution meter
24K808	256 styles, high resolution meter
24J873	2 styles, ultra high resolution meter
24K807	16 styles, ultra high resolution meter
24K814	256 styles, ultra high resolution meter

Mastic Regulator

24B961	2 styles, no flow meter
24K804	16 styles, no flow meter
24K811	256 styles, no flow meter
24B960	2 styles, high resolution meter
24K803	16 styles, high resolution meter
24K810	256 styles, high resolution meter

Heated Mastic Regulator

24C901	2 styles, no flow meter
24K806	16 styles, no flow meter
24K813	256 styles, no flow meter
24B962	2 styles, heated standard resolution meter
24K805	16 styles, heated standard resolution meter
24K812	256 styles, heated standard resolution meter

PrecisionSwirl Expansion Kits

For an additional PrecisionSwirl, you must buy an expansion kit. PrecisionSwirl Expansion Kits include 20 ft (6 m) CAN cable to connect to Control Center. PrecisionSwirl orbiter and motor cable must be ordered separately.

16M350	Expansion kit for AC power
16M351	Expansion kit for DC power

*Independent fluid plates include a 50 ft (15 m) CAN cable.

Ordering Information

REPAIR KITS

241479 Swirl Motor Assembly

Order bearing and coupler separately.

241569 Tool Kit

Includes various tools required for servicing the PrecisionSwirl applicator and tube bearing.

241466 Tube Bearing Wide Pattern Coupler Assembly

Tool kit (241569) required for replacement.
(Dispenser part #243403)

243256 Tube Bearing Narrow Pattern Coupler Assembly

Tool kit (241569) required for replacement.
(Dispenser part #243402 & 289262)

289531 Tube Bearing Medium Pattern Coupler Assembly

Tool kit (241569) required for replacement.
(Dispenser part #289261)

246292 Standard Version Tube Support Bearing Repair Kit

.028 in (0.7 mm) offset coupler. (Dispenser part #243403)
Includes 241466, o-ring, seal, and tube assembly.

246293 Standard Version Tube Support Bearing Repair Kit

.012 in (0.3 mm) offset coupler. (Dispenser part #243402)
Includes 243256, o-ring, seal, and tube assembly.

289311 Compact Version Tube Support Bearing Repair Kit

.018 in (0.5 mm) offset coupler. (Dispenser part #289261)
Includes 289531, o-ring, seal, and tube assembly.

289312 Compact Version Tube Support Bearing Repair Kit

.012 in (0.3 mm) offset coupler. (Dispenser part #289262)
Includes 243256, o-ring, seal, and tube assembly.

15B619 Bellows Seal

Qty: 1 – Fluoroelastomer

246290 Bellows Seal Kit

Qty: 12 – Fluoroelastomer

BUILD YOUR SYSTEM

START ORDER

1

SWIRL DISPENSERS

STANDARD VERSION

243402 PrecisionSwirl Orbital Dispenser

0.012 in (0.3 mm) coupler offset for smaller bead widths.
Typical for seam sealing applications.

OR

243403 PrecisionSwirl Orbital Dispenser

0.028 in (0.7 mm) coupler offset for larger bead widths.
Typical for seam sealing applications.

COMPACT VERSION

289262 PrecisionSwirl Orbital Dispenser

0.012 in (0.3 mm) coupler offset for smaller bead widths.
Typical for seam sealing applications.

OR

289261 PrecisionSwirl Orbital Dispenser

0.018 in (0.5 mm) coupler offset for larger bead widths.
Typical for seam sealing applications.

2

SWIRL DISPENSE TIPS

918610 - 0.012	918609 - 0.033
918601 - 0.015	918611 - 0.035
918602 - 0.017	918612 - 0.039
918603 - 0.019	918613 - 0.043
918605 - 0.023	918614 - 0.047
918606 - 0.025	241813 - 0.051
918607 - 0.027	241814 - 0.055
918608 - 0.030	241816 - 0.070

3

CONTROLLER

Voltage	Gateway	Part Number
100-240 VAC	Discrete	16K605
	DeviceNet	16K601
	Ethernet/IP	16K602
	PROFIBUS	16K603
	PROFINET	16K604
	24 VDC	Discrete
DeviceNet		16K606
Ethernet/IP		16K607
PROFIBUS		16K608
PROFINET		16K609

4

MOTOR CABLES

617870 Motor Cable

55 ft (16.8 m)
Can be used alone or in conjunction with Cable Extension. Connects PrecisionSwirl control panel to extension cable or directly to PrecisionSwirl applicator.

5

MOTOR EXTENSION CABLES

233125 6 ft (1.8 m) Extension Cable

OR

233124 9 ft (2.7 m) Extension Cable

OR

233123 15 ft (4.6 m) Extension Cable

Connects PrecisionSwirl orbital applicator to motor cable.

6

DISPENSER ACCESSORY

196039 Small Profile Retainer

Replaces standard nozzle guard. Allows easier access in confined spaces.

7

DISPENSE VALVES

243482 1K Ultra-Lite

Dispense Valve with 45 degree connection.

OR

243666 1K Ultra-Lite

Dispense Valve with straight connection.

OR

For EnDure straight connection, order:

244910 EnDure Valve

197504 Straight Flange Adapter, EnDure

OR

For EnDure 45 degree connection, order:

244910 EnDure Valve

197842 45 degree Nosepiece
198323 Alternative Orbiter Nut
198324 Nosepiece to Orbiter Fitting

FINISH ORDER



ABOUT GRACO

PROVEN QUALITY. LEADING TECHNOLOGY.

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.

GRACO LOCATIONS

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