



# Circulation Pumps

High Performance Industrial Pumps



PROVEN QUALITY. LEADING TECHNOLOGY.

# Minimize Downtime & Reduce Costs

## with Graco's New Sealed 4-ball Lower

**Downtime is frustrating and costly.** To help keep you up-and-running and keep expenses in check, Graco designed a new sealed lower that not only has longer maintenance cycles, but it is also easier, faster and cheaper to replace than an entire pump assembly. Because the new lower is completely sealed, it can be used for every pumping application in your mix room, including catalyzed coatings. Common components make it simpler to maintain your pump, and it reduces inventory level on repair parts.

Plus our positive displacement piston pumps displace fluid in both directions of the stroke, providing low cycle rates and high flow, ideal for applications using shear-sensitive materials.

### AVOID MESSY LEAKS

- Completely sealed fluid section
- Applicable for moisture sensitive materials

### IMPROVED DURABILITY

- Longer maintenance intervals reduces costs
- Designed for abrasive materials

### ULTRALIFE™ SERIES CERAMIC COATINGS

- Coating now standard on rod & cylinder
- Holds up to today's harshest materials including waterborne

### ADDED SECURITY

- Backup seal contains material within the pump in case of bellows leakage

### UPGRADE EASILY

Compatible with existing Bulldog, NXT, President, Viscount, E-Flo and E-Flo DC motors

### MAINTENANCE FREE

- No TSL required

### OPEN WET CUP VERSION ALSO AVAILABLE

Improved durability and includes Ultralife ceramic coating.





# Which System is Right for You?

No matter your need, Graco has a pump for your circulation application. Whether it's electric, pneumatic or hydraulic, Graco pumps help you get the job done right with superior results.

And because our new Sealed 4-ball Lower is compatible with most Graco motors, it makes it a great option for new or existing installations.

## ELECTRIC



E-FLO DC

## HYDRAULIC



VISCOUNT

## PNEUMATIC



PRESIDENT



HIGH-FLO



## TYPICAL APPLICATIONS

- Paint circulation
- Fluid transfer and supply

## TYPICAL FLUIDS HANDLED

- Waterborne and solventborne paints
- Catalyzed coatings
- Moisture-sensitive materials
- UV-cure coatings

# Electric Piston Pumps

## Make the Switch to Savings

Get the benefits of a pneumatic motor with the energy efficiency of an electric drive unit!

Our E-Flo® DC (Dual Control) electric circulating pump has been found to be up to five times more efficient than similar sized pneumatic pumps – lowering your energy bill and saving you money. Quiet pumping technology means you get a better work environment, and advanced features allow you to prevent costly material loss and rework.



## Why Choose E-Flo DC Electric?

### Save Energy

Up to 5x more efficient than pneumatic

### Prevent Material Loss

Integrated runaway protection protects your pump from premature wear and prevents costly material loss

### Eliminate Costly Rework

Electric motor eliminates icing – giving you smoother pump operation and better finished product

### Improve Quality

Less pulsation and smooth, rapid changeovers – for better, more consistent finishes

### Improve Work Environment

Quiet electric air motor



**E-Flo DC**  
Output up to 2000 cc/cycle

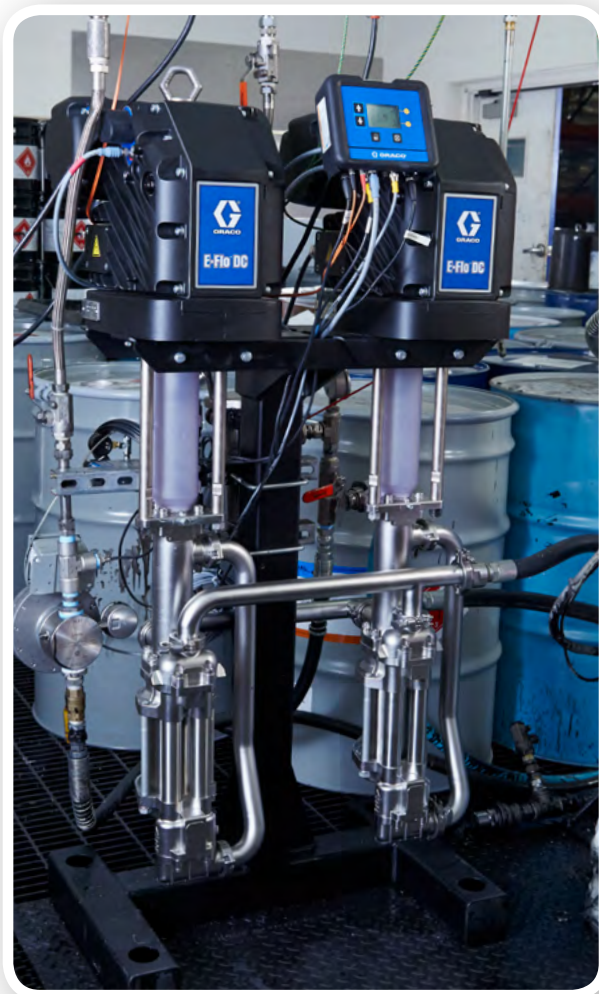
**Legacy E-Flo**  
Output up to 4000 cc/cycle

# Achieve Higher Flow Rates

We doubled our original 4-ball DC circulation pump technology to give you less pulsation, increased flow rates and less downtime.

Unlike competitive pumps that are linked and controlled together, E-Flo DC's lowers operate independently. This allows the pump to adjust to varying pressure and flow rate demands thousands of times per second resulting in minimal pressure fluctuations.

Each pump can also run alone to keep production running if maintenance is required.



**E-Flo DC High Flow Rate**  
Output up to 4000 cc/cycle

## E-FLO® DC Supply Pump

Our supply pump features an energy efficient electric motor that stalls under pressure and changes speeds to maintain constant pressure. This 2-ball electric supply pump is ideal for your high pressure applications such as waterborne spraying or circulation of high-viscosity materials.

### Reasons to buy the E-Flo DC Supply Pump:

- **Efficiency:** 5x more efficient than an air motor
- **Dual Control (DC) Modes:** Maintains either a constant pressure or a constant flow rate
- **Local Control:** Easy control with two knobs
- **Easy Installation:** Requiring only 220 volt single-phase power. No VFD's required.
- **Integrated Runaway Protection:** Prevents material loss and premature wear to the pump
- **Multiple Sizes Available:** 290 cc, 220 cc, 180 cc, and 145 cc displacement lowers



**E-Flo DC Supply**  
Maximum pressure of 3000 psi (206 bar)



# Boost Your Bottom Line

## with Energy Savings and Advanced Pump Control

### E-Flo DC Advanced Motor with Control Module

Efficient and smart, the E-Flo DC with Advanced Control Module gives you additional control of pump performance.



#### CONTROL MODULE

- Integrate the pump easily into a PLC Network for better visibility and control outside of the hazardous area
- Configure different operating profiles of pump
- Up to two pressure transducers can be added for greater control
- Connect pneumatic BPR controller to automate an “off-production” profile for even greater energy savings
- Password protect pump settings to prevent unauthorized access

#### SIMPLE TO INSTALL

Basic installation requires only a single-phase \*110/220 V, 50/60 Hz power

#### No VFD's Required.

\* 110 V power available with 1HP motor only.

#### Basic Motor

Operator-friendly control knobs have clear symbols making it easy to adjust pump settings. Gives you local control at the pump and runaway protection.



## Save Energy

### 5x More Efficient

Electric motor means big savings when compared to similar-sized pneumatic motors – helping lower your energy bill and saving you money.

### Improve Quality

Advanced Control Module allows you to easily integrate the pump into a PLC network for even greater control and visibility.

Dual Control (DC) technology gives you less pulsation and smooth, rapid changeovers – for better, more consistent finishes.

## Boost Your Profits

Integrated runaway protection protects your pump from premature wear and prevents costly material loss.

Electric motor eliminates icing – giving you smoother pump operation, better finished product & eliminate costly rework.

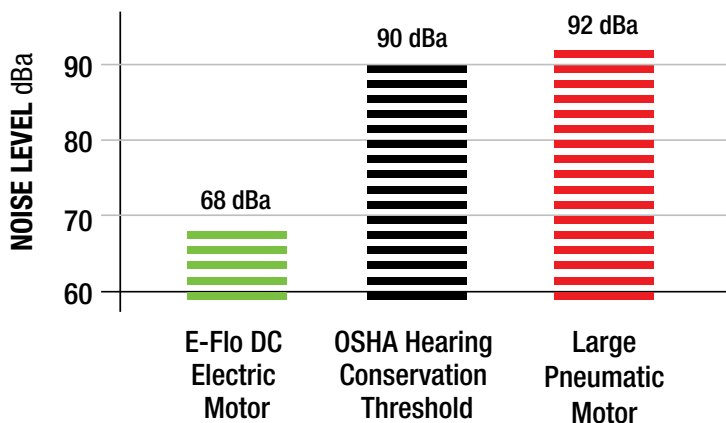
Use less energy and spend less on maintenance costs with the field-proven reliability of Graco's 2- and 4-ball pumps.

## Improve Productivity

Electric pump functionality, with the simplicity of a pneumatic pump, means less time training.

Increased reliability means you'll spend less time maintaining and more time up and running.

Quiet electric motor means happier operators and better results. Exceeds OSHA sound regulations and over 20 dbA's quieter compared to similar-sized pneumatic motors.



Note: All pressures 100 psi

## Control Module & Cable

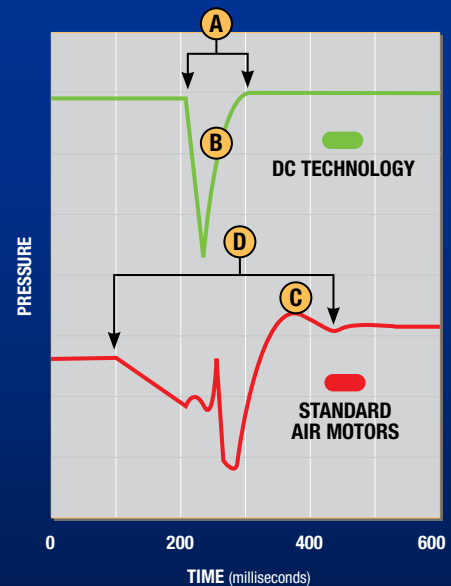
If **Basic** motor control is desired, your pump selection is complete.

If **Advanced** motor control is desired, a Control Module and CAN Cable will be required. Determine the desired mounting location of the Control Module. The Control Module can be mounted directly on the pump or on a nearby wall. Select the appropriate CAN cable length from the table below.

High flow rate circulation pumps (2X) include the Control Module and CAN Cable. No additional equipment is required.

Part Number	Description
24P822	Control Module Kit
16P911	3 ft (1 m) CAN Cable
16P912	25 ft (8 m) CAN Cable

## Changeover Comparison

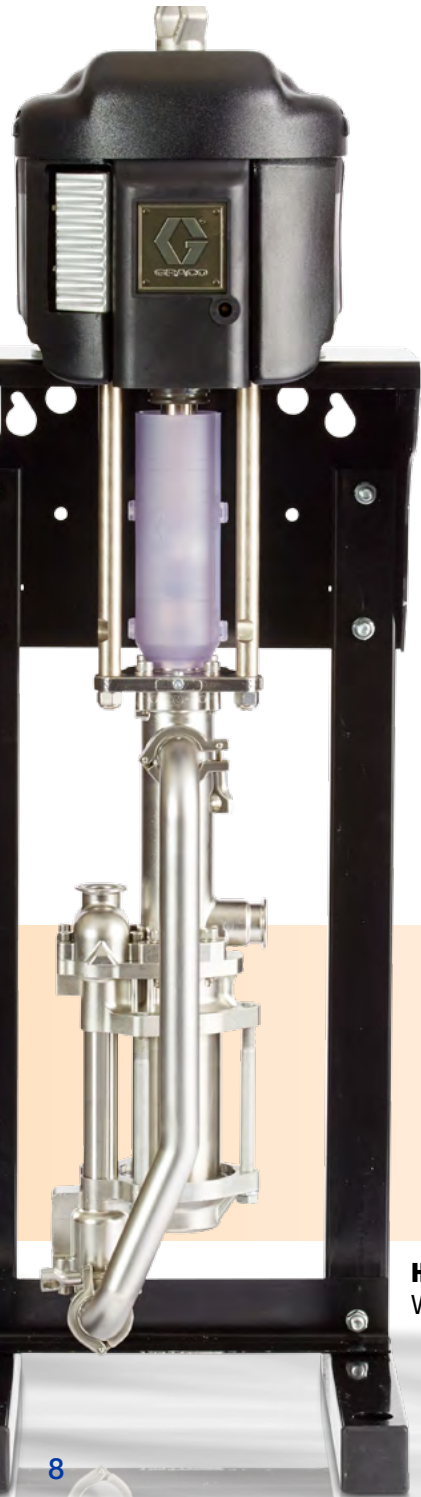


- A** Less than 0.09 second changeover
- B** Quick changeover and recovery with less pulsation
- C** Pressure spike at changeover
- D** Longer changeover causing pulsation

# Pneumatic Piston Pumps

## Easy to Install and Maintain

Graco pneumatic pumps set the standard for long-lasting durability. These pumps are built to handle the toughest finishing applications, keep you up and running longer and give you outstanding performance! They are simple, reliable, and with a slow-moving reciprocating motion, do not damage the paint like centrifugal and other rotary pumping technologies. They are also inherently safe for hazardous locations.



## Why Choose High-Flo Pneumatic?

### Saves Time

Easy to install since most plants have air available and ready to use

### Easy to Maintain

Modular design for easier maintenance

### Easy to Use

Field-proven reliable equipment

### Dependable

Rugged body armor, won't rust or dent

### Eliminates Stalling

De-icing controls eliminate stalling

### Safe for Hazardous Locations

No sources of electrical ignition

## DATATRAK

Efficient and smart, DataTrak gives you additional control of pump performance and allows you to manage several pumps from a single module.

- ▶ Runaway protection
- ▶ Pump diagnostics
- ▶ Tracks material usage



**High-Flo®**  
Variety of flowrates available



# Decades of Proven Reliability with the President

Graco's high volume President circulating pumps allow you to handle mid-range flow requirements while operating at low cycle rates. The pump lower requires fewer cycles per gallon and longer intervals between seal replacement.

- Excellent abrasion and corrosion resistance
- Stainless steel and carbon steel wetted parts for a wide range of fluids
- Large porting for excellent priming and handling of high viscosity fluids
- Low cost of ownership



**President®**  
Output up to 890 cc/cycle



## ENDURA-FLO™ High Pressure Diaphragm Pumps

Don't risk unscheduled downtime because of equipment failure. The simple design of Endura-Flo not only ensures long-lasting durability, but it also withstands runaway conditions better than other diaphragm pumps.

This easy-to-install pump offers low pulsation output and smooth changeover for excellent pressure characteristics. The simplified fluid path allows for quick color changes, saving you time and money. Plus it has the highest pressure ratio in the industry at 4:1.

- Redesigned diaphragm lasts longer and can hold up to extreme operating conditions better
- Easy access to critical components provide fast online maintenance
- Superior durability for abrasive materials
- Minimal solvent to flush and consistent startup pressure make it ideal for multiple color change and piggable systems
- DataTrak prevents runaway and tracks material usage

# Hydraulic Piston Pumps

## Simple, Proven Design

Field proven, energy efficient 4-ball Viscount® piston pumps provide reliable, quiet, ice-free performance and are up to 4x more energy efficient than comparable compressed air systems.

Viscount motors have a long-life packing design and stainless steel wetted parts with neoprene packings for long-lasting durability. With two hydraulic motor types, Graco has the right size to meet your application needs.



## Why Choose Viscount Hydraulic?

### Save Energy

Up to 4x more efficient than pneumatics

### Low Maintenance Costs

Operates in a closed system to prevent contamination

### Quiet Operation

Motors do not exhaust to atmosphere

### High Performance

Stronger performance pressure curve than pneumatics

### Low Investment Costs

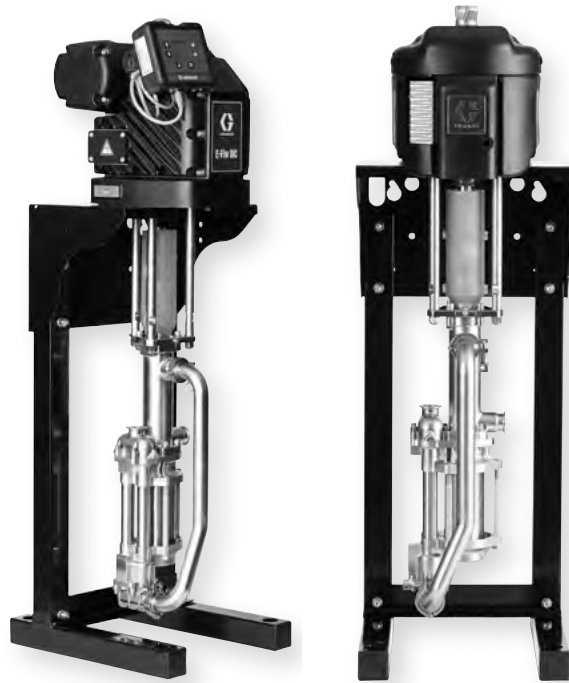
Greater flexibility with more reserve capacity than pneumatics

### Space Savings

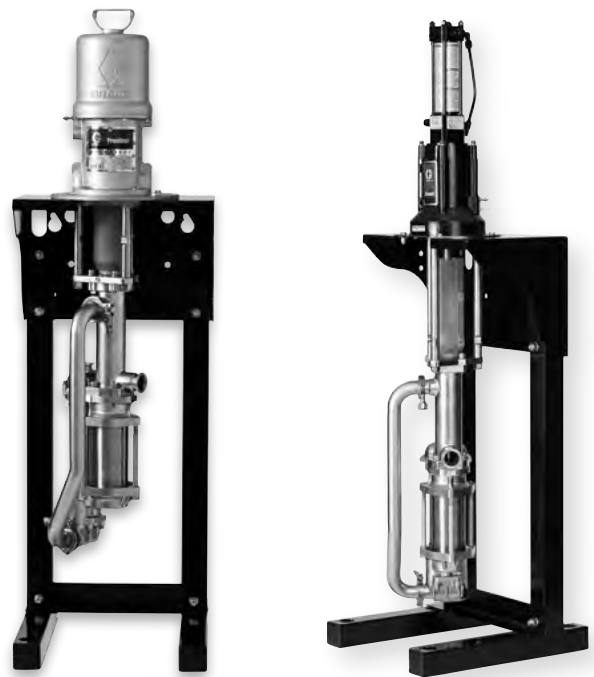
Great for areas with limited floor space

### **Viscount®**

Variety of flowrates available



# Ordering Information & Reference Guide





# E-FLO DC Circ Part Number Matrix

Electric	Circulation Pump	Lower Size	Motor Size, Controls & Approvals	Pump Type/Fittings	Mount
E = Electric	C=Circulation	1 = 750 cc	1 = 1 hp Motor, Basic Controls, ATEX/FM/IECEX	1 = Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, NPT Fittings	0 = No Stand
		2 = 1000 cc	2 = 1 hp Motor, Advanced Controls, ATEX/FM/IECEX	2 = Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	1 = Stand
		3 = 1500 cc	3 = 2 hp Motor, Basic Controls, ATEX/FM/IECEX	3 = Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	2 = Wall Mount Bracket
		4 = 2000 cc	4 = 2 hp Motor, Advanced Controls, ATEX/FM/IECEX	4 = Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	
		5 = 3000 cc	5 = 1 hp Motor, Basic Controls, ATEX/IECEX/TIIS/KCS	5 = Open Wet Cup SST Lower, Ultralife Rod & Cylinder, NPT Fittings	
		6 = 4000 cc	6 = 1 hp Motor, Advanced Controls, ATEX/IECEX/TIIS/KCS	6 = Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	
			7 = 2 hp Motor, Basic Controls, ATEX/IECEX/TIIS/KCS		
			8 = 2 hp Motor, Advanced Controls, ATEX/IECEX/TIIS/KCS		
			9 = 2 x 2 hp Motor, Advanced Controls, ATEX/FM/IECEX		
			0 = 2 x 2 hp Motor, Advanced Controls, ATEX/IECEX/TIIS/KCS		

If **Basic** motor control is desired, your pump selection is complete. Refer to the Pump Selection Table below for your part number.

If **Advanced** motor control is desired, a Control Module and CAN Cable will be required. Determine the desired mounting location of the Control Module. The Control Module can be mounted directly on the pump or on a nearby wall. Select the appropriate CAN cable length from the table below.

**High flow rate circulation pumps (2X) include the Control Module and CAN Cable. No additional equipment is required.**

Part Number	Description
24P822	Control Module Kit
16P911	3 ft (1 m) CAN Cable
16P912	25 ft (8 m) CAN Cable

Motor Size & Controls			Approvals	Pump Type/Fittings							Mount			Output per Cycle					
Motor Size	Basic Controls	Advanced Controls	ATEX / FM / IECEX	ATEX / IECEX / TIIS / KCS	Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, NPT Fittings	Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	Open Wet Cup SST Lower, Ultralife Rod & Cylinder, NPT Fittings	Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	No Stand	Stand	Wall Mount Bracket	750 cc	1000 cc	1500 cc	2000 cc	3000 cc	4000 cc
1 hp	•		•		•					•			EC1110	EC2110					
1 hp	•		•		•						•		EC1111	EC2111					
1 hp	•		•		•							•	EC1112	EC2112					
1 hp		•	•		•					•			EC1210	EC2210					
1 hp		•	•		•						•		EC1211	EC2211					
1 hp		•	•		•							•	EC1212	EC2212					
1 hp	•			•	•					•			EC1510	EC2510					
1 hp	•			•	•						•		EC1511	EC2511					
1 hp	•			•	•							•	EC1512	EC2512					
1 hp		•		•	•					•			EC1610	EC2610					
1 hp		•		•	•						•		EC1611	EC2611					
1 hp		•		•	•							•	EC1612	EC2612					
1 hp	•		•					•		•			EC1140	EC2140					
1 hp	•		•					•			•		EC1141	EC2141					
1 hp	•		•					•				•	EC1142	EC2142					
1 hp		•	•					•		•			EC1240	EC2240					

**E-FLO DC Circ Continued**

Motor Size & Controls			Approvals		Pump Type/Fittings						Mount			Output per Cycle					
Motor Size	Basic Controls	Advanced Controls	ATEX / FM / IECEx	ATEX / IECEx / TIIS / KCS	Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, NPT Fittings	Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	Sealed SST Lower, UltraLife Rod & Cylinder, Tri-Clamp Fittings	Open Wet Cup SST Lower, UltraLife Rod & Cylinder, NPT Fittings	Open Wet Cup SST Lower, UltraLife Rod & Cylinder, Tri-Clamp Fittings	No Stand	Stand	Wall Mount Bracket	750 cc	1000 cc	1500 cc	2000 cc	3000 cc	4000 cc
1 hp		•	•					•				•		EC1241	EC2241				
1 hp		•	•					•				•		EC1242	EC2242				
1 hp	•			•				•			•			EC1540	EC2540				
1 hp	•			•				•				•		EC1541	EC2541				
1 hp	•			•				•				•		EC1542	EC2542				
1 hp		•		•				•			•			EC1640	EC2640				
1 hp		•		•				•				•		EC1641	EC2641				
1 hp		•		•				•				•		EC1642	EC2642				
1 hp	•		•					•			•			EC1150	EC2150				
1 hp	•		•					•				•		EC1151	EC2151				
1 hp	•		•					•				•		EC1152	EC2152				
1 hp		•	•					•			•			EC1250	EC2250				
1 hp		•	•					•			•			EC1251	EC2251				
1 hp		•	•					•			•			EC1252	EC2252				
1 hp	•			•				•			•			EC1550	EC2550				
1 hp	•			•				•			•			EC1551	EC2551				
1 hp	•			•				•			•			EC1552	EC2552				
1 hp		•		•				•			•			EC1650	EC2650				
1 hp		•		•				•			•			EC1651	EC2651				
1 hp		•		•				•			•			EC1652	EC2652				
1 hp	•		•					•			•			EC1160	EC2160				
1 hp	•		•					•			•			EC1161	EC2161				
1 hp	•		•					•			•			EC1162	EC2162				
1 hp		•	•					•			•			EC1260	EC2260				
1 hp		•	•					•			•			EC1261	EC2261				
1 hp		•	•					•			•			EC1262	EC2262				
1 hp	•			•				•			•			EC1560	EC2560				
1 hp	•			•				•			•			EC1561	EC2561				
1 hp	•			•				•			•			EC1562	EC2562				
1 hp		•		•				•			•			EC1660	EC2660				
1 hp		•		•				•			•			EC1661	EC2661				
1 hp		•		•				•			•			EC1662	EC2662				
2 hp	•		•		•						•			EC2310		EC3310	EC4310		
2 hp	•		•		•						•			EC2311		EC3311	EC4311		
2 hp	•		•		•						•			EC2312		EC3312	EC4312		
2 hp		•	•		•						•			EC2410		EC3410	EC4410		
2 hp		•	•		•						•			EC2411		EC3411	EC4411		
2 hp		•	•		•						•			EC2412		EC3412	EC4412		
2 hp	•		•			•					•			EC2320		EC3320	EC4320		
2 hp	•		•			•					•			EC2321		EC3321	EC4321		



# E-FLO DC Circ Continued

Motor Size & Controls			Approvals		Pump Type/Fittings						Mount			Output per Cycle					
Motor Size	Basic Controls	Advanced Controls	ATEX / FM / IECEx	ATEX / IECEx / TIIS / KCS	Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, NPT Fittings	Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	Sealed SST Lower, UltraLife Rod & Cylinder, Tri-Clamp Fittings	Open Wet Cup SST Lower, UltraLife Rod & Cylinder, NPT Fittings	Open Wet Cup SST Lower, UltraLife Rod & Cylinder, Tri-Clamp Fittings	No Stand	Stand	Wall Mount Bracket	750 cc	1000 cc	1500 cc	2000 cc	3000 cc	4000 cc
2 hp	•		•			•							•		EC2322	EC3322	EC4322		
2 hp		•	•			•					•				EC2420	EC3420	EC4420		
2 hp		•	•			•						•			EC2421	EC3421	EC4421		
2 hp		•	•			•							•		EC2422	EC3422	EC4422		
2 hp	•		•				•				•				EC2330	EC3330	EC4330		
2 hp	•		•				•					•			EC2331	EC3331	EC4331		
2 hp	•		•				•						•		EC2332	EC3332	EC4332		
2 hp		•	•								•				EC2430	EC3430	EC4430		
2 hp		•	•									•			EC2431	EC3431	EC4431		
2 hp		•	•										•		EC2432	EC3432	EC4432		
2 hp	•		•								•				EC2340	EC3340	EC4340		
2 hp	•		•									•			EC2341	EC3341	EC4341		
2 hp	•		•										•		EC2342	EC3342	EC4342		
2 hp		•	•								•				EC2440	EC3440	EC4440		
2 hp		•	•									•			EC2441	EC3441	EC4441		
2 hp		•	•										•		EC2442	EC3442	EC4442		
2 hp	•		•						•		•				EC2350	EC3350	EC4350		
2 hp	•		•						•			•			EC2351	EC3351	EC4351		
2 hp	•		•						•				•		EC2352	EC3352	EC4352		
2 hp		•	•						•		•				EC2450	EC3450	EC4450		
2 hp		•	•						•			•			EC2451	EC3451	EC4451		
2 hp		•	•						•				•		EC2452	EC3452	EC4452		
2 hp	•		•						•		•				EC2360	EC3360	EC4360		
2 hp	•		•						•			•			EC2361	EC3361	EC4361		
2 hp	•		•						•				•		EC2362	EC3362	EC4362		
2 hp		•	•						•		•				EC2460	EC3460	EC4460		
2 hp		•	•						•			•			EC2461	EC3461	EC4461		
2 hp		•	•						•				•		EC2462	EC3462	EC4462		
2 hp	•			•	•						•				EC2710	EC3710	EC4710		
2 hp	•			•	•							•			EC2711	EC3711	EC4711		
2 hp	•			•	•								•		EC2712	EC3712	EC4712		
2 hp		•		•	•						•				EC2810	EC3810	EC4810		
2 hp		•		•	•							•			EC2811	EC3811	EC4811		
2 hp		•		•	•								•		EC2812	EC3812	EC4812		
2 hp	•			•		•					•				EC2720	EC3720	EC4720		
2 hp	•			•		•						•			EC2721	EC3721	EC4721		
2 hp	•			•		•							•		EC2722	EC3722	EC4722		
2 hp		•		•		•					•				EC2820	EC3820	EC4820		
2 hp		•		•		•						•			EC2821	EC3821	EC4821		
2 hp		•		•		•							•		EC2822	EC3822	EC4822		



**E-FLO DC Circ Continued**

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2 hp	•			•			•				•				EC2730	EC3730	EC4730		
2 hp	•			•			•					•			EC2731	EC3731	EC4731		
2 hp	•			•			•						•		EC2732	EC3732	EC4732		
2 hp		•		•			•				•				EC2830	EC3830	EC4830		
2 hp		•		•			•					•			EC2831	EC3831	EC4831		
2 hp		•		•			•						•		EC2832	EC3832	EC4832		
2 hp	•			•				•			•				EC2740	EC3740	EC4740		
2 hp	•			•				•				•			EC2741	EC3741	EC4741		
2 hp	•			•				•					•		EC2742	EC3742	EC4742		
2 hp		•		•				•			•				EC2840	EC3840	EC4840		
2 hp		•		•				•				•			EC2841	EC3841	EC4841		
2 hp		•		•				•					•		EC2842	EC3842	EC4842		
2 hp	•			•					•		•				EC2750	EC3750	EC4750		
2 hp	•			•					•			•			EC2751	EC3751	EC4751		
2 hp	•			•					•				•		EC2752	EC3752	EC4752		
2 hp		•		•					•		•				EC2850	EC3850	EC4850		
2 hp		•		•					•			•			EC2851	EC3851	EC4851		
2 hp		•		•					•				•		EC2852	EC3852	EC4852		
2 hp	•			•						•	•				EC2760	EC3760	EC4760		
2 hp	•			•						•		•			EC2761	EC3761	EC4761		
2 hp	•			•						•			•		EC2762	EC3762	EC4762		
2 hp		•		•						•	•				EC2860	EC3860	EC4860		
2 hp		•		•						•		•			EC2861	EC3861	EC4861		
2 hp		•		•						•			•		EC2862	EC3862	EC4862		
2 x 2 hp		•	•			•						•					EC4921	EC5921	EC6921
2 x 2 hp		•	•				•					•					EC4931	EC5931	EC6931
2 x 2 hp		•	•					•				•					EC4941	EC5941	EC6941
2 x 2 hp		•	•						•			•					EC4961	EC5961	EC6961
2 x 2 hp		•		•		•						•					EC4021	EC5021	EC6021
2 x 2 hp		•		•			•					•					EC4031	EC5031	EC6031
2 x 2 hp		•		•				•				•					EC4041	EC5041	EC6041
2 x 2 hp		•		•					•			•					EC4061	EC5061	EC6061

# E-FLO Part Number Matrix

Power Source	Equipment Style	Motor	Sensor Circuit	Lower Size/Type	Stand Option
E = Electric	P = Pump	0 = No motor	0 = Not Installed	1 = 2000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	0 = No Stand
		1 = 230/400V, 5 HP, ATEX	1 = Installed	2 = 3000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	1 = Stand
		2 = 230/400V, 5 HP, UL/CSA		3 = 4000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	
		3 = 230/400V, 3 HP, ATEX		4 = 2000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, MaxLife Cylinder, Tri-Clamp Fittings	
		4 = 230/400V, 3 HP, UL/CSA		5 = 3000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, MaxLife Cylinder, Tri-Clamp Fittings	
				6 = 4000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, MaxLife Cylinder, Tri-Clamp Fittings	
				7 = 1500 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	
				8 = 1500 cc, Enclosed Wet Cup SST Lower, Chromex Rod, MaxLife Cylinder, Tri-Clamp Fittings	
				A = 2000 cc, Sealed SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	
				B = 3000 cc, Sealed SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	
				C = 4000 cc, Sealed SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	
				D = 2000 cc, Open Wet Cup SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	
				E = 3000 cc, Open Wet Cup SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	
				F = 4000 cc, Open Wet Cup SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	
				G = 1500 cc, Sealed SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	
				H = 1500 cc, Open Wet Cup SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings	

Motor		Sensor Circuit	Stand Option	Lower Size/Type																						
No Motor	230/400V, 5 HP, ATEX	230/400V, 5 HP, UL/CSA	230/400V, 3 HP, ATEX	230/400V, 3 HP, UL/CSA	Not Installed	Installed	No Stand	Stand	2000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	3000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	4000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	2000 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	3000 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	4000 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	1500 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	1500 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	2000 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	3000 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	4000 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	2000 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	3000 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	4000 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	1500 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	1500 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings		
•					•				EP0010	EP0020	EP0030				EP0070		EP00A0	EP00B0	EP00C0						EP00G0	
•					•			•	EP0011	EP0021	EP0031				EP0071		EP00A1	EP00B1	EP00C1						EP00G1	
•					•							EP0040	EP0050	EP0060		EP0080					EP00D0	EP00E0	EP00F0			EP00H0
•					•			•				EP0041	EP0051	EP0061		EP0081					EP00D1	EP00E1	EP00F1			EP00H1
•					•	•			EP0110	EP0120	EP0130				EP0170		EP01A0	EP01B0	EP01C0						EP01G0	
•					•	•		•	EP0111	EP0121	EP0131				EP0171		EP01A1	EP01B1	EP01C1						EP01G1	
•					•	•						EP0140	EP0150	EP0160		EP0180					EP01D0	EP01E0	EP01F0			EP01H0
•					•	•						EP0141	EP0151	EP0161		EP0181					EP01D1	EP01E1	EP01F1			EP01H1
•	•				•	•			EP1010	EP1020	EP1030						EP10A0	EP10B0	EP10C0							
•	•				•	•			EP1011	EP1021	EP1031						EP10A1	EP10B1	EP10C1							
•	•				•	•						EP1040	EP1050	EP1060							EP10D0	EP10E0	EP10F0			
•	•				•	•						EP1041	EP1051	EP1061							EP10D1	EP10E1	EP10F1			
•	•				•	•			EP1110	EP1120	EP1130						EP11A0	EP11B0	EP11C0							
•	•				•	•			EP1111	EP1121	EP1131						EP11A1	EP11B1	EP11C1							
•	•				•	•						EP1140	EP1150	EP1160							EP11D0	EP11E0	EP11F0			
•	•				•	•						EP1141	EP1151	EP1161							EP11D1	EP11E1	EP11F1			
•	•				•	•			EP2010	EP2020	EP2030						EP20A0	EP20B0	EP20C0							
•	•				•	•			EP2011	EP2021	EP2031						EP20A1	EP20B1	EP20C1							
•	•				•	•						EP2040	EP2050	EP2060							EP20D0	EP20E0	EP20F0			

**E-FLO Continued**

Motor		Sensor Circuit	Stand Option	Lower Size/Type																							
No Motor	230/400V, 5 HP, ATEX	230/400V, 5 HP, UL/CSA	230/400V, 3 HP, ATEX	230/400V, 3 HP, UL/CSA	Not Installed	Installed	No Stand	Stand	2000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	3000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	4000 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	2000 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	3000 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	4000 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	1500 cc, Enclosed Wet Cup SST Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	1500 cc, Enclosed Wet Cup SST Lower, Chromex Rod & MaxLife Cylinder, Tri-Clamp Fittings	2000 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	3000 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	4000 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	2000 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	3000 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	4000 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	1500 cc, Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	1500 cc, Open Wet Cup SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings			
	•				•		•					EP2041	EP2051	EP2061													
	•				•		•		EP2110	EP2120	EP2130						EP21A0	EP21B0	EP21C0								
	•				•		•		EP2111	EP2121	EP2131						EP21A1	EP21B1	EP21C1								
	•				•		•					EP2140	EP2150	EP2160						EP21D0	EP21E0	EP21F0					
	•				•		•					EP2141	EP2151	EP2161						EP21D1	EP21E1	EP21F1					
		•			•		•								EP3070									EP30G0			
		•			•		•								EP3071									EP30G1			
		•			•		•									EP3080										EP30H0	
		•			•		•									EP3081										EP30H1	
		•			•		•								EP3170									EP31G0			
		•			•		•								EP3171									EP31G1			
		•			•		•									EP3180										EP31H0	
		•			•		•									EP3181										EP31H1	
		•		•	•		•								EP4070										EP40G0		
		•		•	•		•								EP4071										EP40G1		
		•		•	•		•									EP4080										EP40H0	
		•		•	•		•									EP4081										EP40H1	
		•		•	•		•								EP4170										EP41G0		
		•		•	•		•								EP4171										EP41G1		
		•		•	•		•									EP4180										EP41H0	
		•		•	•		•									EP4181										EP41H1	

**Endura-Flo 4D150 Part Numbers**

Part No.	Description/Size	Manifolds			Datatrak
		Tri-Clamp	NPT	BSPP	
24W345	ENDURA-FLO 4D150, TRI-CLAMP FITTINGS, 150 cc	•			
24W346	ENDURA-FLO 4D150, NPT FITTINGS, 150 cc		•		
24W347	ENDURA-FLO 4D150, BSPP FITTINGS, 150 cc			•	
24W348	ENDURA-FLO 4D150, TRI-CLAMP FITTINGS, DATATRAK, 150 cc	•			•
24W349	ENDURA-FLO 4D150, NPT FITTINGS, DATATRAK, 150 cc		•		•
24W350	ENDURA-FLO 4D150, BSPP FITTINGS, DATATRAK, 150 cc			•	•

**Endura-Flo 4D350 Part Numbers**

Part No.	Description/Size	Manifolds			Datatrak
		Tri-Clamp	NPT	BSPP	
24W351	ENDURA-FLO 4D350, TRI-CLAMP FITTINGS, 350 cc	•			
24W352	ENDURA-FLO 4D350, NPT FITTINGS, 350 cc		•		
24W353	ENDURA-FLO 4D350, BSPP FITTINGS, 350 cc			•	
24W354	ENDURA-FLO 4D350, TRI-CLAMP FITTINGS, DATATRAK, 350 cc	•			•
24W355	ENDURA-FLO 4D350, NPT FITTINGS, DATATRAK, 350 cc		•		•
24W356	ENDURA-FLO 4D350, BSPP FITTINGS, DATATRAK, 350 cc			•	•



# High-Flo Part Number Matrix

Product Identifier	Lower Material	Pump Ratio	Motor Type	Lower Type, Fittings
J = High-Flo Pumps	C = Carbon Steel	17 = 1.7:1 / 3400 cc motor / 4000 cc lower	L = Low Noise NXT	1 = Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, NPT Fittings
	S = Stainless Steel	20 = 2:1 2200 cc motor / 2000 cc lower	M = Low Noise NXT with Datatrak	2 = Enclosed Wet Cup Lower, Chromex Rod, MaxLife Cylinder, NPT Fittings
		23 = 2.3:1 / 3400 cc motor / 300 cc lower	R = Remote Exhaust NXT	5 = Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings
		30 = 3:1 / 2200 cc motor / 1500 cc lower	S = Remote NXT with Datatrak	6 = Enclosed Wet Cup Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings
		33 = 3.3:1 / 6500 cc motor / 4000 cc lower		8 = Sealed SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings
		35 = 3.5:1 / 3400 cc motor / 2000 cc lower		9 = Open Wet Cup SST Lower, Ultralife Rod, Ultralife Cylinder, NPT Fittings
		40 = 4:1 / 2200 cc motor / 1000 cc lower		0 = Open Wet Cup SST Lower, Ultralife Rod, Ultralife Cylinder, Tri-Clamp Fittings
		44 = 4.4:1 / 6500 cc motor / 3000 cc lower		
		45 = 4.5:1 / 3400 cc motor / 1500 cc lower		
		60 = 6:1 / 6500 cc motor / 2000 cc lower		

Lower Material		Motor Type					Lower Material, Fittings								Ratio							
Carbon Steel	Stainless Steel	L = Low Noise NXT	M = Low Noise NXT with Datatrak	R = Remote Exhaust NXT	S = Remote NXT with Datatrak	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, NPT Fittings	Enclosed Wet Cup Lower, Chromex Rod & MaxLife Cylinder, NPT Fittings	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	Enclosed Wet Cup Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	Sealed SST Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	Open Wet Cup SST Lower, Ultralife Rod & Cylinder, NPT Fittings	Open Wet Cup SST Lower, Ultralife Rod & Cylinder Tri-Clamp Fittings	Open Wet Cup Lower, Chromex Rod & Chrome Cylinder	1.7:1	2:1	2.3:1	3:1	3.3:1	3.5:1	4:1	4.4:1	4.5:1
•		•				•								JC17L1	JC20L1	JC23L1	JC30L1	JC33L1	JC35L1	JC40L1	JC44L1	JC45L1
•			•			•								JC17M1	JC20M1	JC23M1	JC30M1	JC33M1	JC35M1	JC40L1	JC44M1	JC45M1
•		•										•			JC20L19		JC30L9		JC35L9	JC40L9		JC45L9
•			•									•			JC20M9		JC30M9		JC35M9	JC40M9		JC45M9
	•	•				•								JS17L1	JS20L1	JS23L1	JS30L1	JS33L1	JS35L1	JS40L1	JS44L1	JS45L1
	•		•			•								JS17M1	JS20M1	JS23M1	JS30M1	JS33M1	JS35M1	JS40M1	JS44M1	JS45M1
	•			•		•								JS17R1	JS20R1	JS23R1	JS30R1	JS33R1	JS35R1	JS40R1	JS44R1	JS45R1
	•				•	•								JS17S1	JS20S1	JS23S1	JS30S1	JS33S1	JS35S1	JS40S1	JS44S1	JS45S1
	•	•					•							JS17L2	JS20L2	JS23L2	JS30L2	JS33L2	JS35L2	JS40L2	JS44L2	JS45L2
	•		•				•							JS17M2	JS20M2	JS23M2	JS30M2	JS33M2	JS35M2	JS40M2	JS44M2	JS45M2
	•			•			•							JS17R2	JS20R2	JS23R2	JS30R2	JS33R2	JS35R2	JS40R2	JS44R2	JS45R2
	•				•		•							JS17S2	JS20S2	JS23S2	JS30S2	JS33S2	JS35S2	JS40S2	JS44S2	JS45S2
	•	•						•							JS20L5		JS30L5		JS35L5	JS40L5		JS45L5
	•		•					•							JS20M5		JS30M5		JS35M5	JS40M5		JS45M5
	•			•				•							JS20R5		JS30R5		JS35R5	JS40R5		JS45R5
	•				•			•							JS20S5		JS30S5		JS35S5	JS40S5		JS45S5
	•	•						•							JS20L6		JS30L6		JS35L6	JS40L6		JS45L6

**HIGH-FLO Continued**

Lower Material		Motor Type				Lower Material, Fittings								Ratio								
Carbon Steel	Stainless Steel	L = Low Noise NXT	M = Low Noise NXT with DataTrak	R = Remote Exhaust NXT	S = Remote NXT with DataTrak	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, NPT Fittings	Enclosed Wet Cup Lower, Chromex Rod & MaxLife Cylinder, NPT Fittings	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	Enclosed Wet Cup Lower, UltraLife Rod & Cylinder, Tri-Clamp Fittings	Sealed SST Lower, UltraLife Rod & Cylinder, Tri-Clamp Fittings	Open Wet Cup SST Lower, UltraLife Rod & Cylinder, NPT Fittings	Open Wet Cup SST Lower, UltraLife Rod & Cylinder Tri-Clamp Fittings	Open Wet Cup Lower, Chromex Rod & Chrome Cylinder	1.7:1	2:1	2.3:1	3:1	3.3:1	3.5:1	4:1	4.4:1	4.5:1
	•		•						•						JS20M6		JS30M6		JS35M6	JS40M6		JS45M6
	•			•					•						JS20R6		JS30R6		JS35R6	JS40R6		JS45R6
	•				•				•						JS20S6		JS30S6		JS35S6	JS40S6		JS45S6
	•	•								•					JS20L8		JS30L8		JS35L8	JS40L8		JS45L8
	•		•							•					JS20M8		JS30M8		JS35M8	JS40M8		JS45M8
	•			•						•					JS20R8		JS30R8		JS35R8	JS40R8		JS45R8
	•				•					•					JS20S8		JS30S8		JS35S8	JS40S8		JS45S8
	•	•									•				JS20L9		JS30L9		JS35L9	JS40L9		JS45L9
	•		•								•				JS20M9		JS30M9		JS35M9	JS40M9		JS45M9
	•			•							•				JS20R9		JS30R9		JS35R9	JS40R9		JS45R9
	•				•						•				JS20S9		JS30S9		JS35S9	JS40S9		JS45S9
	•	•										•			JS20L0		JS30L0		JS35L0	JS40L0		JS45L0
	•		•									•			JS20M0		JS30M0		JS35M0	JS40M0		JS45M0
	•			•								•			JS20R0		JS30R0		JS35R0	JS40R0		JS45R0
	•				•							•			JS20S0		JS30S0		JS35S0	JS40S0		JS45S0
	•		•			•												703MSN*		704MSN*		
	•				•	•												703SSN*		704SSN*		
	•		•				•											703MST*		704MST*		
	•				•		•											703SST*		704SST*		
	•		•							•								703MS8*		704MS8*		
	•				•					•								703SS8*		704SS8*		
	•		•								•							703MS9*		704MS9*		
	•				•						•							703SS9*		704SS9*		
	•		•									•						703MS0*		704MS0*		
	•				•							•						703SS0*		704SS0*		

\* Package includes pump, wall bracket, air controls and DataTrak

# President Part Numbers

Lower Material	Configuration		Lower Type						Fittings		Output Per Cycle	
											890 cc	610 cc
											Ratio	
Carbon Steel	Stainless Steel	Standard	Stubby	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder	Sealed Lower, Ultralife Rod & Cylinder	Open Wet Cup Lower, Ultralife Rod & Cylinder	Open Wet Cup Lower, Chromex Rod & Chrome Cylinder	NPT	Tri-Clamp	2:1	3:1	
	•	•		•				•		24H629	24H628	
•		•		•				•		24H997	24H627	
	•		•	•				•			24J075	
•			•	•				•			24J074	
	•		•		•				•	17E222	17E225	
	•	•				•		•		17E223	17E226	
•		•					•	•		17E224	17E227	
	•		•			•		•			17E228	
•			•				•	•			17E229	

# Lower Part Numbers

Lower Material		Lower Type, Fittings						Size			
Carbon Steel	Stainless Steel	Sealed Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	Open Wet Cup Lower, Ultralife Rod & Cylinder, NPT Fittings	Open Wet Cup Lower, Ultralife Rod & Cylinder, Tri-Clamp Fittings	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, NPT Fittings	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder, Tri-Clamp Fittings	Open Wet Cup Lower, Chromex Rod & Chrome Cylinder	750 cc	1000 cc	1500 cc	2000 cc
•							•	17K660	17K661	17K662	17K663
	•	•						17K656	17K657	17K658	17K659
	•		•					17K668	17K669	17K670	17K671
	•			•				17K664	17K665	17K666	17K667
•					•			24F420	24F431	24F439	24F447
	•				•			24F413	24F424	24F432	24F440
	•					•		24F415	24F426	24F434	24F441

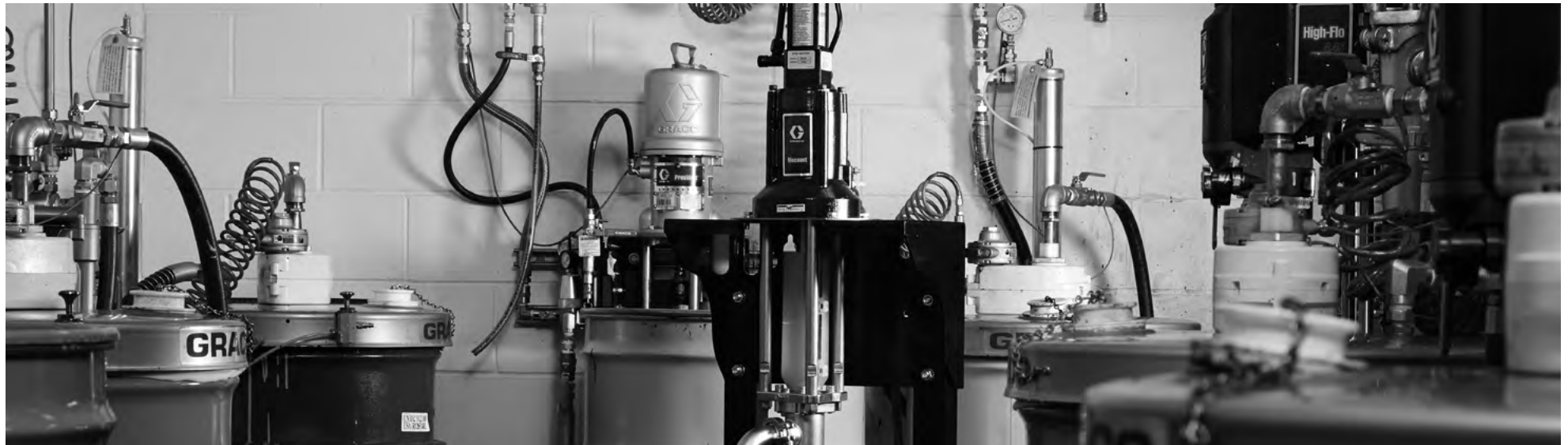
# Connection Kits

Motor							
Lower Type	President	President Stubby	NXT/E-Flo DC	Bulldog/Senator	E-Flo	Viscount I	Viscount II
Sealed	17K523	17K523	17K525	17K517	17K524	17K519	17K520
Open/Enclosed Wet Cup	24J185	24J186	288209	24F308	N/A	24F065	24J390

*Connection Kits contain all the components (tie rods, adapters) required for changing to a different lower style. Refer to manual 311876 for complete info.*

# Viscount Part Numbers

Lower Material		Lower Type							Fittings		Output Per Cycle					
											2000 cc	1500 cc	4000 cc	1000 cc	3000 cc	750 cc
											Motor Size					
Carbon Steel	Stainless Steel	Enclosed Wet Cup Lower, Chromex Rod, Chrome Cylinder	Enclosed Wet Cup Lower, Chromex Rod & MaxLife Cylinder	Sealed Lower, Ultralife Rod & Cylinder	Open Wet Cup Lower, Ultralife Rod & Cylinder	Open Wet Cup Lower, Chromex Rod & Cylinder	NPT	Tri-Clamp	Viscount I	Viscount I	Viscount II	Viscount I	Viscount II	Viscount I	Viscount II	
•		•					•		24E331	24E328	24E340	24E325	24E337		24E334	
•						•	•		17E230	17E234		17E238			17E242	
	•	•					•		24E491	24E489	24E341	24E487	24E338	24E485	24E493	
	•		•				•		24E492	24E490	24E342	24E488	24E339	24E486	24E494	
	•			•				•	17E231	17E235		17E239		17K963	17E243	
	•				•		•		17E232	17E236		17E240		17K964	17E244	
	•				•		•		17E233	17E237		17E241		17K965	17E245	
	•	•					•		24E332	24E329		24E326		24E323	24E335	
	•		•				•		24E333	24E330		24E327		24E324	24E336	





# Accessories

## AIR SUPPLY CONTROLS

217074	Air filter (40 micron)
181521	High volume air regulator (200 cfm, 75 psi max)
206197	High volume air regulator (200 cfm, 125 psi max)
207755	High volume air regulator (380 cfm, 125 psi max)
214849	Air lubricator (3/4 npt(f), 16 oz bowl capacity)
217072	Air Filter-Regulator-Lubricator (FRL) kit (2200/3400)
217073	Air Filter-Regulator-Lubricator (FRL) kit (6500)
222345	Air Filter-Regulator-Lubricator (FRL) kit (2200/3400/Glutton with hose, bracket, gauge and swivel adapters)
NXT011	Integrated air control for NXT air motors

## BACK PRESSURE REGULATORS (BPR)

208997	Mechanical (15 gpm, 180 psi max fluid pressure, 1-1/4 npt)
236770	Mechanical (4.3 gpm, 180 psi max fluid pressure, 3/8 npt)
916154	Carbide mechanical (15 gpm, 180 psi max fluid pressure, 1-1/4 npt)
288117	Pneumatic (20 gpm, 300 psi max fluid pressure, 1-1/4 npt)
288311	Pneumatic (20 gpm, 300 psi max fluid pressure, 1-1/2 npt)
288262	Pneumatic (20 gpm, 300 psi max fluid pressure, 2 in tri-clamp)
224486	Low shear mechanical (20 gpm, 300 psi max fluid pressure, 1-1/2 npt)
223824	Low shear mechanical (20 gpm, 300 psi max fluid pressure, 2 in sanitary)
15J498	Pneumatic BPR conversion kit
24E709	BPR kit for 750 cc lowers
24E722	BPR kit for 1000 cc to 4000 cc lowers

## FITTINGS

26A246	Complete tri-clamp to NPT kit Contains fittings, gaskets, & tri-clamps
15J422	Inlet/Outlet Fitting for 1-1/2 tri-Clamp to 1-1/2 NPT
17K780	Inlet/Outlet Fitting for 1-1/2 tri-clamp to 1 NPT
16F044	Inlet/outlet fitting for 1 NPT to 1 BSPP
16F045	Inlet/outlet fitting for 1-1/2 NPT to 1-1/2 BSPP
16F046	Inlet/outlet fitting for 2 NPT to 2 BSPP
15J423	Inlet/outlet fitting for 2 tri-clamp to 2 NPT
15J639	Inlet/outlet fitting for 1-1/2 tri-clamp to 2 tri-clamp
17K779	Inlet/Outlet Right Angle Adapter for 1-1/2 tri-clamp to 1-1/2 tri-clamp
118598	1-1/2 clamp (tri-clamp)
120351	PTFE w/elastomer sanitary gasket
680454	Solid PTFE sanitary gasket

## FLUID FILTER

244053	Low pressure PTFE encapsulated fluoroelastomer SST (Mesh 60)
247479	Kit for 3/4 NPT(f) SST fluid filter kit
247480	Kit for 1 NPT(f) SST fluid filter kit
247474	Aluminum fluid filter kit
915515	Low pressure bag filter (15 gpm, 300 psi, CS)
915516	Low pressure bag filter (15 gpm, 300 psi, SST)

915517	Low pressure bag filter (30 gpm, 300 psi, CS)
915518	Low pressure bag filter (30 gpm, 300 psi, SST)
213058	Red alert low pressure filter (6 gpm, 60 Mesh, 3/4 NPT)
213059	Red alert low pressure filter (6 gpm, 100 Mesh, 3/4 NPT)
213060	Red alert low pressure filter (6 gpm, 150 Mesh, 3/4 NPT)
213061	Red alert low pressure filter (6 gpm, 200 Mesh, 3/4 NPT)
213063	Red alert low pressure filter (20 gpm, 60 Mesh, 3/4 NPT)
213064	Red alert low pressure filter (20 gpm, 100 Mesh, 3/4 NPT)
213065	Red alert low pressure filter (20 gpm, 150 Mesh, 3/4 NPT)
213066	Red alert low pressure filter (20 gpm, 200 Mesh, 3/4 NPT)

## GAUGE

187875	Gauge (30 psi max, SST)
187874	Gauge (100 psi max, SST)
187873	Gauge (200 psi max, SST)
187876	Gauge (300 psi max, SST)

## TORQUEABLE WET CUP KITS

24F144	Kit for 750-2000 cc lowers
187874	Kit for 3000-4000 cc lowers

## E-FLO MOTOR ACCESSORIES

24H372	ACS Module
16A630	TDC & Position Sensor Barrier
16A633	Pressure Transducer Barrier
15V331	Ethernet IP Gateway Assembly
15V963	DeviceNet Gateway Assembly
15V964	Profibus Gateway Assembly
120373	Local I/O box
15J755	Sensor circuit kit

## ENDURA-FLO KITS

17H315	Floor Stand Kit
17H316	Endura-Flo 4D350 Datatrak Air Valve
17H317	Endura-Flo 4D350 Standard Air Valve
17H318	Endura-Flo 4D350 Datatrak Air Valve
17H319	Endura-Flo 4D350 Standard Air Valve
24Y304 <sup>†</sup>	Endura-Flo 4D150 Datatrak Conversion Kit
24Y306 <sup>†</sup>	Endura-Flo 4D350 Datatrak Conversion Kit

## HYDRAULIC MOTOR ACCESSORIES

189305	Assembly tool for servicing yoke and trip rod (Viscount I)
239805	Intake valve seat with relief valve, carbide seat (Viscount I)
239865	Intake valve seat without relief valve, carbide seat (Viscount I)
237744	Intake valve seat, with internal pressure relief valve (Viscount II)
180529	Intake valve seat, without relief valve (Viscount II)
515258	Hydraulic pressure control valve 3/4 npt inlet, 3/4 npt outlet, 1/4 npt drain, 1/4 npt gauge
512150	Hydraulic shutoff valve (2000 psi max, 1/2 NPT (f)be)
102644	Hydraulic shutoff valve (3000 psi max, 3/4 NPT (f)be)
102646	Hydraulic shutoff valve (3000 psi max, 1 NPT (f)be)
169236	Hydraulic oil 5 gal (18.9 l) size

## PNEUMATIC MOTOR ACCESSORIES

NXT206	DataTrak upgrade kit for the NXT 2200
NXT306	DataTrak upgrade kit for the NXT 3400
NXT606	DataTrak upgrade kit for the NXT 6500

## MOUNTING HARDWARE

255143	Wall Bracket for all NXT and Viscount Motors
253692	Stand for NXT, E-Flo DC and Viscount Motors (750-2000 cc)
218742	Stand for NXT and Viscount Motors (3000-4000 cc)
247312	Wall mount and floor stand adapter for NXT 2200 motor
16E086	Wall mount and floor stand adapter for Viscount I, I+ motor
287884**	Heavy duty cart
287919**	Light duty cart
222011	Grounding Clamps
15H884	Stand for E-Flo

## SUCTION KITS

247475	For 1-1/2 NPT(f) 5 gallon (18 l) SST suction kit
247476	For 1-1/2 NPT(f) 55 gallon (208 l) SST suction kit
247477	For 2 NPT(f) 5 gallon SST (18 l) suction kit
247478	For 2 NPT(f) 55 gallon (208 l) SST suction kit
24E709	Circulation kit (4.3 gpm, 180 psi max)

## SURGE TANKS

239858	Medium volume (15 gpm, 600 psi, SST)
238987	High volume (20 gpm, 300 psi, SST, 2 NPT)
238988	High volume (20 gpm, 300 psi, SST, 1-1/2 NPT)
218509	High volume (20 gpm, 300 psi, SST, 2 NPT, carbide)
218742	Floor stand

## E-FLO DC MOTOR ACCESSORIES

24R050	Pressure Transducer, NPT (500 psi)
24X089	Pressure Transducer, Inline Tri-clamp (500 psi)
24Y245	Pressure Transducer, NPT (5000 psi)
16V103	Transducer Extension Cable
24V001	Pneumatic BPR Control System
16U729	Run/Stop Switch
16M172	50 ft (15 m) Fiber Optic Cable
16M173	100 ft (30 m) Fiber Optic Cable
17B160	330 ft (100 m) Fiber Optic Cable
24R086	Fiber/Serial Converter Kit
24N978	Single Fiber Optic Converter (for adding additional fiber optic converters to 24R086)
15V331	Ethernet IP Gateway Assembly
17M396	Anybus profinet module

## E-FLO DC MOTORS

EM0011	1 hp Motor, Basic Controls <sup>§</sup>
EM0012	1 hp Motor, Advanced Controls <sup>§</sup>
EM0013	1 hp Motor, Basic Controls <sup>§§</sup>
EM0014	1 hp Motor, Advanced Controls <sup>§§</sup>
EM0021	2 hp Motor, Basic Controls <sup>§</sup>
EM0022	2 hp Motor, Advanced Controls <sup>§</sup>
EM0023	2 hp Motor, Basic Controls <sup>§§</sup>
EM0024	2 hp Motor, Advanced Controls <sup>§§</sup>
EM0025**	2 hp Motor (for "2X" E-Flo DC 2000-4000cc Circulation Pumps), Advanced Controls <sup>§</sup>
EM0026**	2 hp Motor (for "2X" E-Flo DC 2000-4000cc Circulation Pumps), Advanced Controls <sup>§§</sup>

<sup>†</sup> Kit includes replacement air valve compatible with solenoid

\*\* System requires two motors

<sup>§</sup> ATEX/FM/IECEX

<sup>§§</sup> ATEX/FM/TIS/KCS

## E-Flo DC Circ Pump Specifications

Model	750	1000	1500	2000	3000	4000
Output per Cycle	750 cc	1000 cc	1500 cc	2000 cc	3000 cc	4000 cc
Maximum Working Pressure psi (bar)	285 (20.6)	1 hp: 210 (13.8) 2 hp: 380 (27.6)	285 (20.6)	2 hp: 210 (14.5) 2 x 2 hp: 380 (27.6) <sup>o</sup>	285 (20.6) <sup>o</sup>	210 (14.5) <sup>o</sup>
Output at 20 CPM gpm (lpm)	4.00 (15)	5.25 (20)	8.00 (30)	2 hp: 10.50 (40) 2 x 2 hp: 380 (27.6) <sup>o</sup>	9.51 (36) <sup>o</sup>	12.7 (48) <sup>o</sup>
Max Recommended Continuous Cycle Rate (CPM) <sup>†</sup> <b>Sealed 4-ball lower: 20</b> <b>Open/Enclosed wet cup lower: 12</b> ( <sup>o</sup> only recommended rate is 12 CPM)						

## E-Flo Pump Specifications

Model	1500	2000	3000	4000
Output per Cycle	1500 cc	2000 cc	3000 cc	4000 cc
Electric AC Motor Size	3 HP	5 HP	5 HP	5 HP
Maximum Working Pressure psi (bar)	425 (29)	460 (32)	330 (23)	250 (17)
Output at 20 CPM gpm (lpm)	8.1 (31)	12 (45)	16.2 (61)	22.6 (85.5)
Max Recommended Continuous Cycle Rate (CPM) <sup>†</sup> <b>Sealed 4-ball lower: 20</b> <b>Open/Enclosed wet cup lower: 12</b>				

## Endura-Flo Pump Specifications

Model	150cc	350cc
Maximum fluid working pressure	400 psi (28 bar)	400 psi (28 bar)
Maximum air input pressure	100 psi (7 bar)	100 psi (7 bar)
Ratio	4:1	4:1
Output at 60 CPM gpm (lpm)	2.37 (9)	5.54 (21)
Maximum Recommended Continuous Cycle Rate	20 cpm	20 cpm

## High-Flo Pump Specifications

Model	1.7:1	2:1	2.3:1	3:1	3.3:1	3.5:1	4:1	4.4:1	4.5:1
Pump Ratio	1.7:1	2:1	2.3:1	3:1	3.3:1	3.5:1	4:1	4.4:1	4.5:1
Output per Cycle	4000 cc	2000 cc	3000 cc	1500 cc	4000 cc	2000 cc	1000 cc	3000 cc	1500 cc
Motor Size	3400	2200	3400	2200	6500	3400	2200	6500	3400
Maximum Working Pressure psi (bar)	170 (11.7)	200 (13.8)	230 (15.8)	290 (20.0)	325 (22.4)	340 (23.4)	400 (27.6)	440 (30.3)	450 (31.0)
Maximum Air Input Pressure psi (bar)	100 (7)	100 (7)	100 (7)	100 (7)	100 (7)	100 (7)	100 (7)	100 (7)	100 (7)
Output at 60 CPM gpm (lpm)	63 (238.6)	31.9 (119.3)	47.3 (179)	23.2 (87.9)	63 (238.6)	31.5 (119.3)	16.9 (64)	47.3 (179)	23.2 (87.9)
Max Recommended Continuous Cycle Rate (CPM) <sup>†</sup> <b>Sealed 4-ball lower: 20</b> <b>Open/Enclosed wet cup lower: 12</b>									

## President Pump Specifications

Pump Ratio	2:1	3:1
Output per cycle	890 cc	610 cc
Maximum Working Pressure psi (bar)	460 (32)	460 (32)
Maximum Air Input Pressure psi (bar)	180 (12)	150 (10)
Output at 60 gpm (lpm)	14.1 (53.5)	9.6 (36.4)
Max Recommended Continuous Cycle Rate (CPM) <sup>†</sup> <b>Sealed 4-ball lower: 20</b> <b>Open/Enclosed wet cup lower: 12</b>		

## Viscount Pump Specifications

	2000 cc	1500 cc	4000 cc	1000 cc	3000 cc	750 cc	2000 cc
Output per cycle	2000 cc	1500 cc	4000 cc	1000 cc	3000 cc	750 cc	2000 cc
Motor Size	Viscount I	Viscount I	Viscount II	Viscount I	Viscount II	Viscount I	Viscount II
Maximum Working Pressure psi (bar)	167 (12)	225 (16)	300 (21)	300 (21)	400 (28)	450 (31)	460 (32)
Maximum Air Input Pressure psi (bar)	1500 (103)	1500 (103)	1200 (83)	1500 (103)	1200 (83)	1500 (103)	1200 (83)
Oil Flow at 60 CPM gpm (lpm)	3.5 (13.2)	3.5 (13.2)	12 (45)	3.5 (13.2)	12 (45)	3 (11.3)	12 (45)
Output at 60 cpm	26.8 (101.4)	19.5 (73.8)	63 (238.6)	14.1 (53.4)	47.3 (179)	9.6 (36.4)	31.5 (119.3)
Max Recommended Continuous Cycle Rate (CPM) <sup>†</sup> <b>Sealed 4-ball lower: 20</b> <b>Open/Enclosed wet cup lower: 12</b>							

<sup>†</sup> Graco recommends a cycle rate of 20 CPM or less with the Sealed 4-ball Lower and 12 CPM or less with the Open/Enclosed Wet Cup 4-ball Lower for continuous pumping applications.



## ABOUT GRACO

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