

# E-FLO DCi<sup>™</sup> WITH XT<sup>™</sup> TECHNOLOGY

Electrically Driven Supply and Circulation Pump for Liquid Finishing Applications



MOVING MATERIALS THAT MATTER™



# **OPTIMAL FLOW CONTROL**

#### **FACTORY PAINT CIRCULATION AND SUPPLY**

E-Flo® DCi™ dual control (DC) electric pumps with intelligence (i) raise industry standards for:

- · Proven Reliability and Simplicity
- · Energy Savings and Low Operation Costs
- Integration Simplicity



Graco-owned motor technology that offers Xtreme Torque:

- 10x more torque than traditional motors
- · Handles a broad range of paints and coatings, even high abrasive primers
- Eliminate pressure relief valve and additional controls to prevent pump failures and reduce downtime – stalls under pressure
- Changes speed to maintain constant fluid pressure without VFD (variable frequency drive)



#### **PUMP LOWERS**

Robust, modular lowers keep running 24 hours a day / 7 days a week / 365 days a year.

- Install the right size and construction for your liquid finishing application.
- Access and service parts without slowing down production.

#### **4-BALL CIRCULATION**

- 750 cc to 4000 cc configurations meet every flow application.
- · Sealed 4-ball lower needs little to no maintenance.
- · Durable ceramic Ultralife coatings extend pump life.

#### **2-BALL SUPPLY**

- 145 cc to 1000 cc Dura-Flo lower achieves 6:1 to 46:1 equivalent pressure ratios.
- · Configure to up to 4500 psi.



Large Sealed 4-Ball Circulation Pump



Supply Pump



Mid-Range Sealed 4-Ball Circulation Pump

View in 3D

Scan the QR code to see E-Flo DCi from all angles.



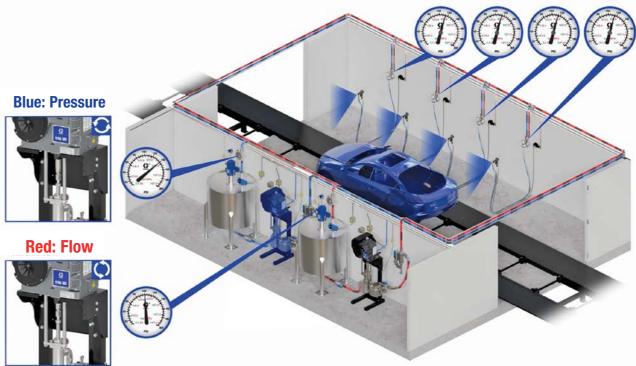
#### **DUAL CONTROL (DC)**

Dual control (DC) means that you can choose the operation mode that works best for your application.

- Flow mode drives set flow rates recommended for constant circulation.
- Pressure mode maintains a constant force that quickly changes speed. This ability to adjust according to demand is ideal for canister fill and non-circulated materials.

#### PROVEN RELIABILITY AND SIMPLICITY

Graco E-Flo DCi electric pumps exceed pneumatic and hydraulic pump performance in industrial paint mix rooms.







# **INTEGRATION SIMPLICITY**

# **CHOOSE YOUR CONNECTIVITY**

BASIC installation involves a control module and PLC (programmable logic controller) connection. No VFD (variable frequency drive) required.

#### INTUITIVE WEB INTERFACE

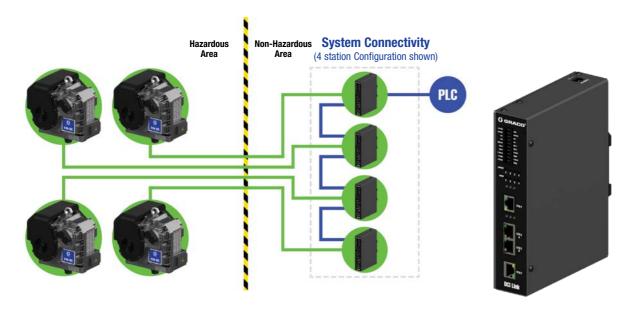
Ethernet access to web-based setup and programming enables real-time access to data. This can help you immediately address system issues and predict when motor or lower maintenance is needed.

- Basic or advanced options size up or down, according to changing production demands and reporting needs.
- Access real-time data at any time from anywhere on your connected device.
- Web interface includes operations monitor, system configuration, process and alarm data.
- Easily track and report on pressure, flow, power consumption and events.
- Events include over/under pressure or flow. This can help identify and fix pump run-away conditions before they become a problem.



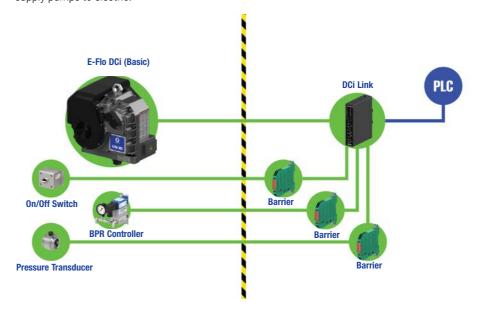
#### MINIMAL WIRING AND HARDWARE REQUIRED

It shouldn't take a lot of extra wiring and hardware to make your factory paint mix room and paint circulation system ready for IoT (Internet of Things) and Industry 4.0.

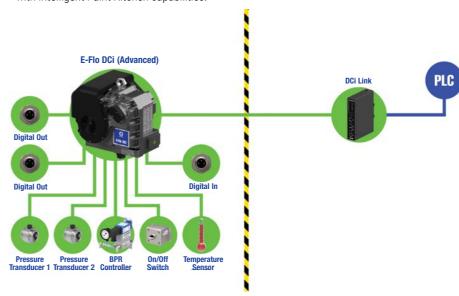


DCi Link" connects via Ethernet to your plant's PLC (programmable logic controller). Minimal wiring requirements simplify integration and truly make your pump intelligent.

**BASIC** installation involves a control module and programmable logic controller (PLC) connection. Wiring that extends outside of the paint mix room works well for upgrading pneumatic or legacy supply pumps to electric.



**ADVANCED** installation integrates intrinsically safe input/output (I/O) within the paint mix room. Wiring that connects directly sets up new or upgraded systems for success. Add more efficiency with Intelligent Paint Kitchen capabilities.



#### Local control is ideal for startup and maintenance operations

- · Force (pressure) Mode
- Flow Mode
- · Remote Mode





# **LOW COST OF OWNERSHIP**

# **MEETING SUSTAINABLE GOALS**

#### PROVEN RELIABILITY AND SIMPLICITY

Graco E-Flo DCi electric pumps exceed pneumatic and hydraulic pump performance in industrial paint mix rooms.

# It's easy to replace existing Graco pneumatic or hydraulic pump motors with the E-Flo DCi. MINIMAL MOVING PARTS There's less to service or fix than any other electric pump on the market. LOW MAINTENANCE An annual oil change is all that's needed to keep the dual control (DC) motor running efficiently.



# **COMPACT FOOTPRINT**

Space-saving vertical design fits almost anywhere.

43.2 x 51.8 cm

E-Flo DCi Footprint

117 kg (258 lb)

102.1 x 41.9 cm

**Competitor Footprint** 

355 kg (737 lb)

101.6 x 27.9 cm

**Competitor Footprint** 

207 kg (456 lb)

#### **E-FLO DCI ELECTRIC MOTORS USE:**

- 80% less energy than similar-sized pneumatic pumps
- 30% less energy than similar-sized competitive electric pumps

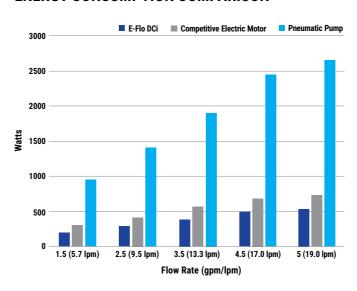
#### **ENERGY CONSUMPTION AND NOISE COMPARISON**

#### **ELECTRIC VS AIR-OPERATED**

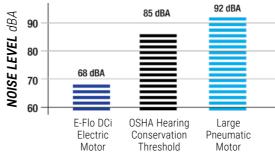
Dual control (DC) electric motors run 5 to 10 times more efficiently than air motors. This can lower your energy bills and improve compliance with environmental regulations.

Electric motors operate at least 20 decibels more quietly than similar-sized pneumatic motors. A quiet motor that exceeds Occupational Safety and Health Administration (OSHA) sound regulations means happier operators who produce better results.

#### **ENERGY CONSUMPTION COMPARISON**



#### **NOISE COMPARISON**



Note: All pressures 100 psi

# NO AIR CONSUMPTION MEANS NO ICING

Icing is a problem inherent to all air motors. Since electric motors do not use compressed air, they do not ice.



the air supply lines condenses and freezes on the pneumatic air controls. If the accumulated ice melts into material containers, it can cause contamination issues. If the melting ice drips on the factory floor, it becomes a safety hazard.



pumps like the E-Flo DCi. This means that paint mix room operators and maintenance staff do not need to worry about contamination or safety issues caused by air motor icing.



# **CIRCULATION PUMPS - 4 BALL**

## **CHOOSE THE RIGHT CIRCULATION PUMP FOR YOU!**

#### **HOW TO SELECT YOUR E-FLO DCi**

For more detailed information, reference manuals 3A8352, 3A7828 and 3A8471.

#### **PUMP NUMBER MATRIX**

First Digit	Second Digit	Third and Fourth Digit	Fifth Digit	Sixth Digit
Y = Intelligent	B = Basic 380 - 480V	90 = 3 HP 750 cc	4 = Sealed Ultralife	0 = No Stand
	A = Advanced 380 - 480V	62 = 3 HP 1000 cc	8 = Sealed with Chrome	1 = Stand
		45 = 3 HP 1500 cc	9 = Sealed with SiNi	
		35 = 3 HP 2000 cc		
		28 = 3 HP 2500 cc		
		23 = 3 HP 3000 cc		
		17 = 3 HP 4000 cc		
		53 = 5 HP 2500 cc		
		44 = 5 HP 3000 cc		
		33 = 5 HP 4000 cc		

#### **SPECIFICATIONS**

	750	1000	1500	2000	2500	3000	4000
Max Pressure 3 HP (bar)	900 (62.1)	600 (41.4)	450 (31.0)	350 (24.1)	280 (19.3)		
Max Pressure 5 HP (bar)					460 (31.8)	400 (27.6)	300 (20.7)
Maximum Flow @ 20 cpm gpm (lpm)	4.0 (15)	5.25 (20)	8.0 (30)	10.6 (40)	13.2 (50)	15.9 (60)	21.1 (80)
Volume Per Cycle (cc)	750	1000	1500	2000	2500	3000	4000
Footprint Area in <sup>2</sup> (cm <sup>2</sup> )				338 (2180)			
Weight lb (kg)				228 (103) - 251 (114	1)		

#### **ACCESSORIES**

	PART #		PART #
DCi Link	2008499	Control Securing Kit	20A749
Active Surge Tank	17W739	Back Pressure Regulator Controller	2010425
Wall Mount Bracket	255143	Pressure Transducer 500 PSI	2009660
Direct Pump Mount	18A983	Run/Stop Switch	2010462
Floor Stand	253692		

MOTOR	SIZE & CO	NTROLS	VOLTAGE	APPROVALS	LOWER	LOWER TYPE / FITTINGS			UNT	OUTPUT PER CYCLE							
Motor Size	Advanced Controls	Basic Controls	380-480 VAC3 Phase	ATEX / FM / IECEx	Sealed Stainless, Tri-Clamp, Ultralife	Sealed Stainless, Tri-Clamp, Chrome	Sealed Stainless, Tri-Clamp, SiNi	No Stand	Stand	145cc	180cc	220cc	290cc	430cc	580cc	1000cc	
3 HP		•	•	•	•			•		YB9040	YB6240	YB4540	YB3540	YB2840			
3 HP	•		•					•		YA9040	YA6240	YA4540	YA3540	YA2840			
3 HP		•	•		•				•	YB9041	YB6241	YB4541	YB3541	YB2841			
3 HP	•		•		•				•	YA9041	YA6241	YA4541	YA3541	YA2841			
3 HP		•	•			•		•		YB9080	YB6280	YB4580	YB3580	YB2880			
3 HP	•		•			•				YA9080	YA6280	YA4580	YA3580	YA2880			
3 HP		•	•			•			•	YB9081	YB6281	YB4581	YB3581	YB2881			
3 HP	•		•			•				YA9081	YA6281	YA4581	YA3581	YA2881			
3 HP			•							YB9090	YB6290	YB4590	YB3590	YB2890			
3 HP	•		•				•			YA9090	YA6290	YA4590	YA3590	YA2890			
3 HP			•				•			YB9091	YB6291	YB4591	YB3591	YB2891			
3 HP	•		•				•			YA9091	YA6291	YA4591	YA3591	YA2891			
5 HP			•		•									YB5340	YB4440	YB3340	
5 HP	•		•		•									YA5340	YA4440	YA3340	
5 HP			•		•									YB5341	YB4441	YB3341	
5 HP	•		•		•									YA5341	YA4441	YA3341	
5 HP			•											YB5380	YB4480	YB3380	
5 HP						•								YA5380	YA4480	YA3380	
5 HP			•											YB5381	YB4481	YB3381	
5 HP			•			•								YA5381	YA4481	YA3381	
5 HP								•						YB5390	YB4490	YB3390	
5 HP			•											YA5390	YA4490	YA3390	
5 HP									•					YB5391	YB4491	YB3391	
5 HP			•											YA5391	YA4491	YA3391	



# **SUPPLY PUMPS - 2 BALL**

## **CHOOSE THE RIGHT SUPPLY PUMP FOR YOU!**

#### **HOW TO SELECT YOUR E-FLO DCi**

For more detailed information, reference manuals 3A8352, 3A7826 and 3A8471.

#### **PUMP NUMBER MATRIX**

First Digit	Second and Third Digit	Fourth Digit	Fifth Digit	Sixth Digit
Y = Intelligent	46 = 3 HP 145 cc	B = Basic 380 - 480V	Dura-Flo	0 = No Stand
	40 = 3 HP 180 cc	A = Advanced 380 - 480V	A: 3UHMW / 2 PTFE Stainless	1 = Stand
	30 = 3 HP 220 cc		B: 3 UHMW/2 Tuffstack, Stainless	
	25 = 3 HP 290 cc		D: 3 PTFE / 2 Leather, Carbon Steel	
	15 = 3 HP 430 cc		E: 4 Leather /1 PTFE, Stainless	
	12 = 3 HP 580 cc		G: PTFE / PTFE, Stainless	
	06 = 3 HP 1000 cc		H: PTFE / Leather, Stainless	
	45 = 5 HP 290 cc		K: UHMW / Leather, Carbon Steel	
	32 = 5 HP 430 cc		Xtreme	
	23 = 5 HP 580 cc		1: 3 Xtreme / 2 Leather, Carbon Steel	
	10 = 5 HP 1000 cc			

#### **SPECIFICATIONS**

	145	180	220	290	430	580	1000					
Max Pressure 3 HP (bar)	4600 (317)	4000 (276)	3000 (207)	2500 (172)	1500 (103)	1200 (83)	600 (41)					
Max Pressure 5 HP (bar)				4500 (310)	3200 (221)	2300 (159)	1000 (69)					
Maximum Flow @ 20 cpm gpm (lpm)	0.77 (2.9)	0.95 (3.6)	1.2 (4.4)	1.5 (18)	2.3 (8.6)	3.1 (11.6)	5.3 (20)					
Volume Per Cycle (cc)	145	180	220	290	430	580	1000					
Footprint Area in <sup>2</sup> (cm <sup>2</sup> )				338 (2180)								
Weight lb (kg)		201 (91) - 223 (101)										

#### **ACCESSORIES**

	PART #
DCi Link	2008499
Active Surge Tank	17W739
Wall Mount Bracket	255143
Direct Pump Mount	18A983
Floor Stand	253602

	PART #
Control Securing Kit	20A749
Back Pressure Regulator Controller	2010425
Pressure Transducer 5000 PSI	2009662
Run/Stop Switch	2010462

	MO <sup>-</sup>	TOR SIZ	E & .S	VOLTAGE		PACKINGS/CONSTRUCTION						LOWER SIZE					MOUNT				
Pressure Ratio	Motor Size	Advanced Controls	Basic Controls	380-480 VAC 3 Phase	A = 3UHMW / 2 PTFE Stainless	B = 3 UHMW/2 Tuff- stack, Stainless	D = 3 PTFE / 2 Leather, Carbon Steel	E = 4 Leather /1 PTFE, Stainless	G = PTFE / PTFE, Stainless	H = PTFE / Leather, Stainless	K = UHMW / Leather, Carbon Steel	1 = 3 Xtreme / 2 Leather, Carbon Steel	145 CC	180 CC	220 CC	290 CC	425 CC	580 CC	1000 CC	No Stand	Stand
6:1	3 HP		•	•							•								•	Y06BK0	Y06BK1
6:1	3 HP	•		•							•								•	Y06AK0	Y06AK1
6:1	3 HP		•	•					•										•	Y06BG0	Y06BG1
6:1	3 HP	•		•					•										•	Y06AG0	Y06AG1
10:1	5 HP		•	•							•								•	Y10BK0	Y10BK1
10:1	5 HP	•		•							•								•	Y10AK0	Y10AK1
12:1	3 HP		•	•														•		Y12BD0	Y12BD1
12:1	3 HP	•		•														•		Y12AD0	Y12AD1
12:1	3 HP		•															•		Y12BA0	Y12BA1
12:1	3 HP																			Y12AB0	Y12AB1
15:1	3 HP																			Y15BD0	Y15BD1
15:1	3 HP	•																		Y15AD0	Y15AD1
15:1	3 HP																			Y15BB0	Y15BB1
15:1	3 HP	•																		Y15AE0	Y15AB1
23:1	5 HP																			Y23BD0	Y23BD1
23:1	5 HP	•																		Y23AD0	Y23AD1
23:1	5 HP																			Y23BA0	Y23BA1
23:1	5 HP	•																		Y23AB0	Y23AB1
25:1	3 HP																			Y25B10	Y25B11
25:1	3 HP	•																		Y25A10	Y25A11
25:1	3 HP																			Y25BE0	Y25BE1
25:1	3 HP	•																		Y25AE0	Y25AE1
30:1	3 HP		•																	Y30B10	Y30B11
30:1	3 HP																			Y30A10	Y30A11
30:1	3 HP		•																	Y30BE0	Y30BE1
30:1	3 HP	•																		Y30AE0	Y30AE1
32:1	5 HP		•				•													Y32BD0	Y32BD1
32:1	5 HP	•																		Y32AD0	Y32AD1
32:1	5 HP																			Y32BB0	Y32BB1
32:1	5 HP	•																		Y32AB0	Y32AB1
40:1	3 HP		•																	Y40BE0	
40:1	3 HP	•																		Y40AE0	Y40AE1
45:1	5 HP																			Y45BE0	
45:1	5 HP																			Y45AE0	
46:1	3 HP																			Y46BH0	Y46BH1
46:1	3 HP																			Y46AH0	



# MOVING MATERIALS THAT MATTER™



#### For more information visit graco.com/EFIoDCi