

Table of Contents

Section 2: Pumps

Pumping Technologies	36
Two-Ball Pumps	37
Monark®	37
President®.....	39
DuraFlo® & Xtreme®.....	42
Viscount®	45
Four-Ball Pumps	48
President 1.5:1, 2:1 and 3:1	48
High-Flo® & High-Flo Plus	50
Viscount I+ and Viscount II	53
E-Flo®	55
Plunger and Bellows Pumps	57
Merkur™ Bellows	57
Glutton®	59
Diaphragm Pumps	60
Triton®	60
Centrifugal Pumps	62
Imperial®	62

Industrial Customer Service

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Pumping Technologies

2

Definitions

Continuous Duty

A pump operating 24 hours a day, seven days a week, 52 weeks a year.

Cycle Rate

The number of times the pump completes a pump cycle in a given period of time.

Flow Rate

The volume of material that can be pumped in a given period of time.

Maximum Fluid Outlet Pressure

The maximum outlet fluid pressure a pump can achieve at stall, no flow.

Pressure

The amount of force exerted evenly on a given surface area, typically reported in pounds per square inch (psi), MegaPascals (MPa), or bar (bar).

Pump

The term referring to equipment that supplies fluid pressure and flow for fluid handling needs.

Pump Cycle

A complete upstroke and downstroke operation of the lower displacement pump.

Pump Ratio

The relationship between the air or hydraulic motor piston effective area and the lower displacement pump's piston effective area.

Pump Stroke

The upstroke or downstroke operation of a pump.

Pump Volume per Cycle

The volume of material pumped in a complete upstroke and downstroke pump operation.

Sound Pressure Level

The number of decibels (dBA) produced by the pump at a given pump cycle rate.

Shear

One layer of fluid slipping relative to an adjacent layer of fluid. The more a fluid slips in a pump, the higher the shear rate.

Viscosity

The resistance of a fluid to flowing. The more a fluid resists flowing, the higher its viscosity.

Technical Specifications and Ordering Information

	Part Number	218763	223186	224350	224343	224345	218956	239327	223844	223596	237958
PUMP SPECIFICATIONS	Model	1.5:1	2:1	5:1	5:1	5:1	5:1	15:1	15:1	23:1	23:1
	Output per cycle	429 cc	343 cc	157 cc	157 cc	157 cc	135 cc	44 cc	44 cc	27 cc	27 cc
	Maximum working pressure psi (bar, MPa)	180 (12, 1.2)	200 (12, 1.4)	900 (62, 6.2)	600 (42, 4.2)	900 (62, 6.2)	900 (62, 6.2)	2700 (186, 18.6)	2700 (186, 18.6)	3450 (238, 23.8)	2760 (190, 19.0)
	Maximum air input pressure psi (bar, MPa)	120 (8, 0.8)	100 (7, 0.7)	180 (12.4, 1.2)	120 (8, 0.8)	180 (12.4, 1.2)	180 (12.4, 1.2)	180 (12.4, 1.2)	100 (7, 0.7)	150 (10, 1.0)	120 (8, 0.8)
	Output at 60 CPM gpm (lpm)	6.8 (25.7)	5.4 (20.5)	2.5 (9.4)	2.5 (9.4)	2.5 (9.4)	2.1 (8.1)	0.7 (2.6)	0.7 (2.6)	0.4 (1.6)	0.4 (1.6)
INLET/ OUTLET	Pump inlet size	1-1/2 npt(f)	1-1/2 npt(f)	1-1/5 (f)	3/4 npt(f)	3/4 npt(f)	N/A	3/4 npt(m)	3/4 npt(m)	3/4 npt(m)	3/4 npt(m)
	Pump outlet size	1 npt(f)	1 npt(f)	3/4 npt(f)	1/2 npt(f)	1/2 npt(f)	3/4 npt(f)	3/8 npt(f)	3/8 npt(f)	3/8 npt(f)	3/8 npt(f)
MANUALS	Pump manual assembly	307653	307985	308118	308116	308117	307044	308739	308106	307619	307619
	Lower manual	307652	307983	308118	308116	308117	307044	306981	308106	307619	307619
	Motor manual	307141	307043	307043	307043	307043	307043	307043	307043	307043	307043



	Type	Seals	1.5:1	2:1	5:1	5:1	5:1	5:1	15:1	15:1	23:1	23:1
PUMP CONSTRUCTION	CARBON STEEL	Stubby UHMWPE/Leather		223186					239327		223596	
		Drum UHMWPE/Leather		223185								
		PTFE					218956					
	STAINLESS STEEL	Stubby UHMWPE/Leather	218763									237958
		UHMWPE/PTFE				224343						
		UHMWPE/Neoprene					224345					
	PTFE/Leather							223844				
	Drum UHMWPE/PTFE			224350								

Replacement Parts Index S = Standard • = Optional

Pump Part No		218763	223186	224350	224343	224345	218956	239327	223844	223596	237958
Part No	Description	1.5:1	2:1	5:1	5:1	5:1	5:1	15:1	15:1	23:1	23:1
206728	Air motor repair kit	S	S	S	S	S	S	S	S	S	S
220927	Seal repair kit - 3 UHMWPE/2 Leather	S									
223320	Seal repair kit - 3 UHMWPE/2 Leather		S								
224401	Seal repair kit - 2 UHMWPE/2 PTFE				S						
224402	Seal repair kit - UHMWPE/Neoprene					S					
208520	Seal repair kit - 2 UHMWPE/2 PTFE						S				
237197	Seal repair kit - 3 Leather/2 PTFE	•									
237194	Seal repair kit - 3 Leather/2 PTFE		•								
224889	Seal repair kit - 4 PTFE				•						
224404	Seal repair kit - UHMWPE/PTFE					•					
224889	Seal repair kit - 4 PTFE			•							
237200	Seal repair kit - 5 PTFE	•									
223321	Seal repair kit - 5 PTFE		•								
218757	Seal repair kit - UHMWPE U-Cup	•									
235635	Seal Repair Kit - 3 PTFE/3 Leather							S	S		
239328	Seal Repair Kit - 4 Leather/1 PTFE									S	•
235636	Seal Repair Kit - 2 PTFE/2 Leather									•	S
223675	Seal Repair Kit - 3 UHMWPE/3 Leather							•	•		
223674	Seal Repair Kit - 2 UHMWPE/2 Leather									•	•
237725	Seal Repair Kit - 6 PTFE							•	•		
236724	Seal Repair Kit - 4 PTFE									•	•
243687	Seal Repair Kit - Tuff-Stack™*							•	•		
243615	Seal Packings - Tuff-Stack*									•	•
243616	Seal Packings - Tuff-Stack*									•	•
243621	Seal Packings - Tuff-Stack*							•	•		

* Tuff-Stack part numbers sold as 12-count convenience pack.

Monark

Pneumatic 2-Ball Piston Pumps

Replacement Parts Index (continued) S = Standard • = Optional

Part No	Description	Pump Part No									
		218763 1.5:1	223186 2:1	224350 5:1	224343 5:1	224345 5:1	218956 5:1	239327 15:1	223844 15:1	223596 23:1	237958 23:1
243622	Throat Seal Packings - Tuff-Stack™*			•	•		•				
243624	Throat Seal Packings - Tuff-Stack*					•					
243623	Piston Seal Packings - Tuff-Stack*			•	•	•	•				
243625	Piston Seal Packings - Tuff-Stack*					•					
180954	Displacement Rod - SST	S									
185650	Displacement Rod - CS		S								
186997	Displacement Rod - SST			S	S	S					
169504	Displacement Rod - SST						S				
223589	Displacement Rod - SST							S	S		
223603	Displacement Rod - SST									S	S
178902	Housing Sleeve - SST							S	S		
178898	Housing Sleeve - SST									S	S
177721	Cylinder - SST	S									
185649	Cylinder - CS		S								
186994	Cylinder - SST				S	S					
186986	Cylinder - SST			S			S				

*Tuff-Stack part numbers sold as 12-count convenience pack.

Additional Lower Displacement Pump**

Pump	Lower Displacement		Standard Seal Repair Kit		Standard Displacement Rod		Sleeve Housing	
	Mat'l	Kit	Const.	Rod	Const.	Housing	Const.	
243663	CS	237725	6 PTFE	223589	SST	178902	SST	

**This lower displacement pump is not offered in complete Monark pump assemblies. To configure a complete Monark 15:1 or 23:1 pump with these lowers:

1. Select desired lower displacement pump, based on fluid pressure and flow requirements and seal construction.
2. Order Monark air motor 215363 for Monark 15:1 or Monark air motor 222791 for Monark 23:1.
3. Order tie rods 164722 (qty: 3), locknuts 101566 (qty: 3), cotter pin 101946 and o-ring seal 156082.

Accessories

- 207365 Wall Bracket**
For mounting 5:1 Monark pump to wall.
- 206220 Wall Bracket**
For mounting 1.5:1 and 2:1 Monark pump to wall.
- 194248 Accessory Packing Tool**
Eases insertion of position assembly into cylinder (model 218763, 223186 and 223185).
- 168085 Accessory Assembly Tool**
Used to install piston assembly into cylinder (models 218956).
- 241953 Monark Muffler Retrofit Kit**
Upgrades previous Monark air motor design with foam attached to air motor plates. Reduces sound level of Monark air motor.
- 207579 Padded Pliers**
For servicing Monark air motor trip rod.
- 171818 Adjustment Tool**
A 0.145 in (3.7 mm) gauge used to ensure proper clearance between the poppets and the piston on the Monark air motor.

- 236054 Suction Kit (Monark 1.5:1 and 2:1 only)**
Use to siphon material out of 55 gal (200 l) closed-end drum. Includes siphon tube, bung adapter, 6 ft (1.8 m) nitrile hose, 1-1/2 npt(m) outlet fitting.
- 207484 Siphon Kit, Aluminum (Monark 5:1 only)**
Use to siphon fluid from a 5 gal (18.9 l) pail. Includes nylon suction hose 214960, 3/4 in ID, 3.5 ft (1.1 m) long, 3/4 in npt(f) swivel outlet fitting.
- 208259 Siphon Kit, Carbon Steel (Monark 5:1 only)**
Use to siphon fluid from a 55 gal (200 l) drum. Includes nylon suction hose 214961, 3/4 in ID, 6 ft (1.8 m), 3/4 in npt(f) swivel outlet fitting, bung adapter.
- 208920 Siphon Kit, Aluminum (Monark 5:1 only)**
Use to siphon fluid from a 5 gal (18.9 l) pail. Includes nylon suction hose 170706, 1 in ID, 4 ft (1.2 m) long, 3/4 in npt(f) swivel outlet fitting, inlet strainer.

President®

Pneumatic 2-Ball Piston Pumps

Technical Specifications and Ordering Information

2

	Model	3:1	4:1	10:1	15:1	30:1	46:1
PUMP SPECIFICATIONS	Output per cycle	630 cc	500 cc	189 cc	112 cc	62 cc	36 cc
	Maximum working pressure psi (bar, MPa)	360 (25, 2.5)	400 (28, 2.8)	1800 (124, 12.4)	1800 (124, 12.4)	3600 (250, 25.0)	4600 (317, 31.7)
	Maximum air input pressure psi (bar, MPa)	120 (8, 0.8)	100 (7, 0.7)	180 (12, 1.2)	120 (8, 0.8)	120 (8, 0.8)	100 (7, 0.7)
	Output at 60 CPM gpm (lpm)	10 (37.8)	8 (30.2)	3 (11.3)	1.8 (6.8)	1 (3.8)	0.58 (2.2)
INLET/ OUTLET	Pump inlet size	1-1/2 npt(f)	1-1/2 npt(f)	Stubby: 3/4 npt(f) Drum: No intake thread	3/4 npt(m)	316 SST Model: 3/4 npt(f) All Other Models: 3/4 npt(m)	3/4 npt(f)
	Pump outlet size	Stubby: 3/4 npt(m) Drum: 1 npt(f)	1 npt(f)	Models 239326, 224347, 224348: 3/4 npt(f) Models 224342, 224348: 1/2 npt(f)	1-1/2 npt(f)	316 SST Model: 1/4 npt(f) All Other Models: 3/8 npt(f)	3/8 npt(f)
MANUALS	Pump manual assembly	307674	307986	308116 (Model 224342) 308117 (Models 224346, 224347) 308118 (SST Drum Pumps) 308738 (CS Drum Pumps)	306936	306769 (316 SST model) 308106 (304 SST model) 306981 (CS models)	307619

Type		Seals	3:1	4:1	10:1	15:1	30:1	46:1	
PUMP CONSTRUCTION	CARBON STEEL	Stubby	4 Leather/1 PTFE	237142					
		Stubby	3 Leather/ 2 PTFE	237143					
		Stubby	3 UHMWPE/2 Leather		223184				
		Stubby	PTFE/Leather				217580	223586	
		Stubby	Tuff-Stack *					243664	
		Drum	4 Leather/1 PTFE	237144					
	STAINLESS STEEL	Drum	3 UHMWPE/2 Leather	218795	223183				
		Drum	PTFE	237145		239326			
		Drum	PTFE/Leather					221075	
		Stubby	3 UHMWPE/2 Leather	218747					
		Stubby	5 PTFE	237146					
		Stubby	UHMWPE/PTFE			224342			
STAINLESS STEEL	Stubby	UHMWPE/Neoprene			224346				
	Stubby w/Riser Tube	UHMWPE/Neoprene			224347				
	Stubby 316 SST	PTFE					206897		
	Stubby 304 SST	PTFE/Leather					223843		
	Drum	3 UHMWPE/2 Leather	218795						
	Drum	5 PTFE	237145						
Drum	UHMWPE/PTFE			224348					

* Tuff-Stack part numbers sold as 12-count convenience pack.

President

Pneumatic 2-Ball Piston Pumps

Replacement Parts Index S = Standard • = Optional

Part No	Description	Pump Part No	237142	237143	218747	237146	237144	218795	237145	223184	223183	239140
			3:1	3:1	3:1	3:1	3:1	3:1	3:1	4:1	4:1	46:1
207385	Air motor repair kit		S	S	S	S	S	S	S	S	S	S
237198	Seal repair kit - 4 Leather/1 PTFE		S	•	•	•	β	•	•			
237197	Seal repair kit - 3 Leather/2 PTFE		•	S	•	•	•	•	•			
220927	Seal repair kit - 3 UHMWPE/2 Leather		•	•	S	•	•	S	•			
237200	Seal repair kit - 5 PTFE		•	•	•	S	•	•	S			
223320	Seal repair kit - 3 UHMWPE/2 Leather									S	S	
218757	Seal repair kit - UHMWPE U-Cup		•	•	•	•	•	•	•			
237193	Seal repair kit - 4 Leather/1 PTFE									•	•	
237194	Seal repair kit - 3 Leather/2 PTFE									•	•	
223321	Seal repair kit - 5 PTFE									•	•	
180954	Displacement Rod - SST		S	S	S	S	S	S	S			
177721	Cylinder - SST		S	S	S	S	S	S	S			
185650	Displacement Rod - CS									S	S	
185649	Cylinder - CS									S	S	
235636	Seal Repair Kit - 2 PTFE/2 Leather											S
223674	Seal Repair Kit - 2 UHMWPE/2 Leather											•
236724	Seal Repair Kit - 4 PTFE											•
239328	Seal Repair Kit - 4 Leather/1 PTFE											•
243615	Seal Packings - Tuff-Stack*											•
243616	Seal Packings - Tuff-Stack*											•
223603	Displacement Rod - SST											S
178898	Housing Sleeve - SST											S

Part No	Description	Pump Part No	239326	224342	224346	224347	224348	217580	221075	223586	243664	206897	223843
			10:1	10:1	10:1	10:1	10:1	15:1	30:1	30:1	30:1	30:1	30:1
207385	Air Motor Repair Kit		S	S	S	S	S	S	S	S	S	S	S
208520	Seal Repair Kit - PTFE		S										
224401	Seal Repair Kit - UHMWPE/PTFE			S									
224402	Seal Repair Kit - UHMWPE/Neoprene				S	S							
224403	Seal Repair Kit - UHMWPE/PTFE						S						
224404	Seal Repair Kit - UHMWPE/PTFE				•	•							
235634	Seal Repair Kit - PTFE/Leather							S					
235635	Seal Repair Kit - PTFE/Leather								S	S	•		S
243687	Seal Repair Kit - Tuff-Stack*								•	•	S		•
224889	Seal Repair Kit - PTFE			•			•						
220396	Seal Repair Kit - UHMWPE/Leather						•						
223675	Seal Repair Kit - UHMWPE/Leather								•	•	•		•
237725	Seal Repair Kit - PTFE								•	•	•		•
243621	Seal Repair Kit - Tuff-Stack*											•	
169504	Displacement Rod - SST		S										
186997	Displacement Rod - SST			S	S	S	S						
178895	Displacement Rod - SST							S					
223589	Displacement Rod - 17-4PH SST								S	S	S		S
165609	Displacement Rod - 316 SST											S	
186986	Cylinder		S				S						
186994	Cylinder			S	S	S							
178902	Housing Sleeve - 304 SST								S	S	S	S	S
178896	Housing Sleeve - SST							S					

*Tuff-Stack part numbers sold as 12-count convenience pack.

President

Pneumatic 2-Ball Piston Pumps

Additional Lower Displacement Pumps

Lower Displacement		Standard Seal Repair		Standard Displacement Rod		Sleeve Housing	
Pump	Mat'l	Kit	Const.	Rod	Const.	Housing	Const.
223595	CS	239328	4 Leather/ 1 PTFE	223603	SST	178898	SST

*This lower displacement pump is not offered in complete President 46:1 pump assembly. To configure a complete carbon steel President 46:1 pump with this lower:

1. Order lower displacement pump 223595.
2. Order President air motor 207352.
3. Order adapter 191995, cotter pin 101946 (qty 2), o-ring 154771, carbon steel tie rods 191996 (qty 3) and locknuts 101566 (qty 3).

2

Accessories

- 206220 Wall Bracket**
For mounting President pump to wall.
- 207365 Wall Bracket**
For mounting a President pump to a wall.
- 205640 Pump Floor Stand**
For mounting a President pump in a suction feed system. Adapter 206108 is required.
- 205700 Pump Floor Stand**
For mounting a President pump in a suction feed system.
- 220581 Pump Floor Stand**
For mounting a President pump in a suction-feed system.
- 194248 Accessory Packing Tool**
Eases insertion of piston assembly into cylinder.
- 168085 Accessory Assembly Tool**
Use to install piston assembly into cylinder (model 239326).
- 171818 Adjustment Tool**
A 0.145 in (3.7 mm) gauge used to ensure proper clearance between the poppets and the piston on the President air motor.
- 207579 Padded Pliers**
For servicing President air motor trip rod.
- 208920 Siphon Kit, Aluminum**
Use to siphon fluid from a 5 gal (18.9 l) pail. Includes nylon suction hose 170706, 1 in ID, 4 ft (1.2 m) long, 3/4 in npt(f) swivel outlet fitting. Requires 1-1/2 in to 3/4 in npt reducer and 3/4 in npt nipple.
- 207484 Siphon Kit, Aluminum**
Use to siphon fluid from a 5 gal (18.9 l) pail. Includes nylon suction hose 214960, 3/4 in ID, 3.5 ft (1.1 m) long, 3/4 in npt(f) swivel outlet fitting. Requires 1-1/2 in to 3/4 in npt reducer and 3/4 in npt nipple.
- 208259 Siphon Kit, Carbon Steel**
Use to siphon fluid from a 55 gal (200 l) drum. Includes nylon suction hose 214961, 3/4 in ID, 6 ft (1.8 m) long, 3/4 in npt(f) swivel outlet fitting, bung adapter. Requires 1-1/2 in to 3/4 in npt reducer and 3/4 in npt nipple.
- 243801 President Remote Exhaust Muffler Kit**
Kit allows remote exhaust piping to be installed to President air motor exhaust port. Redirects noise and exhaust contaminants to a remote location. Kit includes air motor covers with 3/4 in npt(f) exhaust port and cork gasket.
- 243421 President Muffler Kit**
Kit includes external muffler and plates and gaskets used in muffler kit 243801. External muffler provides noise reduction to President air motor.

DuraFlo® & Xtreme®

With NXT Technology

Use the Smart Numbering System!*

The six-digit Smart Numbering System can help you order quickly and accurately. Simply follow the diagram for the part you want and build your order.

2



P x x x x x x

Dura-Flo™ and Xtreme® Pumps with NXT

Product Identifier:

P = Dura-Flo and Xtreme Pumps

Pump Ratio:

06 = 6:1/3400 cc motor/1000cc lower	25 = 25:1/3400 cc motor/290cc lower
10 = 10:1/6500 cc motor/1000cc lower	30 = 30:1/3400 cc motor/220cc lower
12 = 12:1/3400 cc motor/580cc lower	31 = 31:1/2200 cc motor/145cc lower
15 = 15:1/3400 cc motor/430cc lower	32 = 32:1/6500 cc motor/430cc lower
16 = 16:1/2200 cc motor/290cc lower	40 = 40:1/3400 cc motor/180cc lower
21 = 21:1/2200 cc motor/220cc lower	45 = 45:1/6500 cc motor/290cc lower
23 = 23:1/6500 cc motor/580cc lower	46 = 46:1/3400 cc motor/145cc lower
24 = 24:1/2200 cc motor/180cc lower	

Motor Type:

D: De-Icing NXT	L: Low Noise NXT
E: De-Icing NXT with DataTrak	M: Low Noise NXT with DataTrak

Lower Material:

C: Carbon Steel	S: Stainless Steel
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Packing:

Dura-Flo:		Xtreme NXT:
A: 3 UHMWPE / 2 PTFE	E: 4 Leather / 1 PTFE	1: 3 Xtreme / 2 Leather
B: 3 UHMWPE / 2 Tuffstack	G: PTFE / PTFE	
D: 3 PTFE / 2 Leather	H: PTFE / Leather	
	K: UHMWPE / Leather	

Accessories

- 247472 Kit, Suction, CS, 5 gal (19 l), 1 1/4", Xtreme
- 247473 Kit, Suction, CS, 55 gal (208 l), 1 1/4", Xtreme
- 247474 Kit, Filter, CS, Xtreme
- 247475 Kit, Suction, SST, 5 gal (19 l), 1 1/2", Dura-Flo
- 247476 Kit, Suction, SST, 55 gal (208 l), 1 1/2", Dura-Flo
- 247477 Kit, Suction, SST, 5 gal (19 l), 2", Dura-Flo
- 247478 Kit, Suction, SST, 55 gal (208 l), 2", Dura-Flo
- 247479 Kit, Suction, SST, 3/4", Dura-Flo
- 247480 Kit, Suction, SST, 1", Dura-Flo

DuraFlo & Xtreme

With NXT Technology

Technical Specifications and Ordering Information

2

		6:1	10:1	12:1	15:1	16:1	21:1	23:1	24:1	25:1
PUMP SPECIFICATIONS	Output per cycle	1000 cc	1000 cc	580 cc	430 cc	290 cc	220 cc	580 cc	180 cc	290 cc
	Motor Size	NXT 3400	NXT 6500	NXT 3400	NXT 3400	NXT 2200	NXT 2200	NXT 6500	NXT 2200	NXT 3400
	Maximum Working Pressure psi (bar, MPa)	620 (43, 4.3)	1190 (82, 8.2)	1190 (82, 8.2)	1580 (109, 10.9)	1520 (105,10.5)	2030 (140, 14.0)	2270 (156, 15.6)	2430 (167, 16.7)	2380 (164, 16.4)
	Maximum Air Input Pressure psi (bar,MPa)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)
	Output at 60 CPM gpm (lpm)	17.4 (65.8)	17.4 (65.8)	9.2 (34.8)	6.9 (26.1)	4.6 (17.5)	3.4 (12.9)	9.2 (34.8)	2.9 (11.0)	4.6 (17.5)
	INLET/ OUTLET	CS Pump Inlet Size	2" npt (f)	2" npt (f)	2" npt (f)	2" npt (f)	1 1/4" npt(m)	1 1/4" npt(m)	2" npt (f)	1 1/4" npt(m)
CS Pump Outlet Size		1 1/2" npt (f)	1 1/2" npt (f)	1 1/2" npt (f)	1 1/2" npt (f)	1" npt (f)	1" npt (f)	1 1/2" npt (f)	3/4" npt (f)	1" npt (f)
SST Pump Inlet Size		2" npt (f)	n/a	2" npt (f)	2" npt (f)	2" npt (f)	2" npt (f)	2" npt (f)	1 1/2" npt (f)	2" npt (f)
SST Pump Outlet Size		1" npt (f)	n/a	1 1/2" npt (m)	1 1/2" npt (m)	1" npt (f)	1" npt (f)	1 1/2" npt (m)	3/4" npt (f)	1" npt (f)
MANUALS	CS Pump Manual	311833	311833	311826	311826	311164	311164	311826	311164	311164
	SST Pump Manual	311833	n/a	311826	311826	311828	311828	311826	311828	311828
	CS Lower Manual	311717	311717	311825	311825	311762	311762	311825	311762	311762
	SST Lower Manual	311716	n/a	311825	311825	311827	311827	311825	311827	311827
	Motor Manual	311238	311238	311238	311238	311238	311238	311238	311238	311238

	MOTOR TYPE	DATATRAK INCLUDED	PACKINGS	6:1	10:1	12:1	15:1	16:1	21:1	23:1	24:1	25:1
CARBON STEEL	D		1					P16DC1	P21DC1		P24DC1	P25DC1
	D		D			P12DCD	P15DCD			P23DCD		
	D		K	P06DCK	P10DCK							
	E	Yes	1					P16EC1	P21EC1		P24EC1	P25EC1
	E	Yes	D			P12ECD	P15ECD			P23ECD		
	E	Yes	K	P06ECK	P10ECK							
	L		1					P16LC1	P21LC1		P24LC1	P25LC1
	L		D			P12LCD	P15LCD			P23LCD		
	L		K	P06LCK	P10LCK							
	M	Yes	1					P16MC1	P21MC1		P24MC1	P25MC1
	M	Yes	D			P12MCD	P15MCD			P23MCD		
	M	Yes	K	P06MCK	P10MCK							
PUMP CONSTRUCTION	STAINLESS STEEL	D		A		P12DSA				P23DSA		
		D		B			P15DSB					
		D		E				P16DSE	P21DSE		P24DSE	P25DSE
		D		G	P06DSG							
		E	Yes	A		P12ESA				P23ESA		
		E	Yes	B			P15ESB					
		E	Yes	E				P16ESE	P21ESE		P24ESE	P25ESE
		E	Yes	G	P06ESG							
		E	Yes	H								
	L		A		P12LSA					P23LSA		
	L		B			P15LSB						
	L		E				P16LSE	P21LSE		P24LSE	P25LSE	
	L		G	P06LSG								
	L		H									
	M	Yes	A		P12MSA					P23MSA		
	M	Yes	B			P15MSB						
	M	Yes	E				P16MSE	P21MSE		P24MSE	P25MSE	
	M	Yes	G	P06MSG								
M	Yes	H										

DuraFlo & Xtreme

With NXT Technology

2

Technical Specifications and Ordering Information

		30:1	31:1	32:1	40:1	45:1	46:1
PUMP SPECIFICATIONS	Output per cycle	220 cc	145 cc	530 cc	180 cc	290 cc	145 cc
	Motor Size	NXT 3400	NXT 2200	NXT 6500	NXT 3400	NXT 6500	NXT 3400
	Maximum Working Pressure psi (bar, MPa)	3170 (218, 21.8)	3040 (209, 20.9)	3030 (209, 20.9)	3800 (262, 26.2)	4550 (313, 13.3)	4750 (327, 32.7)
	Maximum Air Input Pressure psi (bar, MPa)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)
	Output at 60 CPM gpm (lpm)	3.4 (12.9)	2.3 (8.8)	6.9 (26.1)	2.9 (11.0)	4.6 (17.5)	2.3 (8.8)
INLET/ OUTLET SIZE	CS Pump Inlet Size	1 1/4" npt(m)	1 1/4" npt(m)	2" npt (f)	n/a	n/a	n/a
	CS Pump Outlet Size	1" npt (f)	3/4" npt (f)	1 1/2" npt (f)	n/a	n/a	n/a
	SST Pump Inlet Size	2" npt (f)	1 1/2" npt (f)	2" npt (f)	1 1/2" npt (f)	2" npt (f)	1 1/2" npt (f)
	SST Pump Outlet Size	1" npt (f)	3/4" npt (f)	1 1/2" npt (m)	3/4" npt (f)	1" npt (f)	3/4" npt (f)
MANUALS	CS Pump Manual	311164	311164	311826	n/a	n/a	n/a
	SST Pump Manual	311828	311828	311826	311828	311828	311828
	CS Lower Manual	311762	311762	311825	n/a	n/a	n/a
	SST Lower Manual	311827	311827	311825	311827	311827	311827
	Motor Manual	311238	311238	311238	311238	311238	311238

	MOTOR TYPE	DATATRAK INCLUDED	PACKINGS	30:1	31:1	32:1	40:1	45:1	46:1
CARBON STEEL	D		1	P30DC1	P31DC1				
	D		D			P32DCD			
	D		K						
	E	Yes	1	P30EC1	P31EC1				
	E	Yes	D			P32ECD			
	E	Yes	K						
	L		1	P30LC1	P31LC1				
	L		D			P32LCD			
	L		K						
	M	Yes	1	P30MC1	P31MC1				
	M	Yes	D			P32MCD			
	M	Yes	K						
PUMP CONSTRUCTION	STAINLESS STEEL	D		A					
		D		B			P32DSB		
		D		E	P30DSE			P40DSE	P45DSE
		D		G					
		D		H		P31DSH			P46DSH
		E	Yes	A					
		E	Yes	B			P32ESB		
		E	Yes	E	P30ESE			P40ESE	P45ESE
	E	Yes	G						
	E	Yes	H		P31ESH			P46ESH	
	L		A						
	L		B			P32LSB			
	L		E	P30LSE			P40LSE	P45LSE	
	L		G						
	L		H		P31LSH			P46LSH	
	M	Yes	A						
M	Yes	B			P32MSBI				
M	Yes	E	P30MSE			P40MSE	P45MSE		
M	Yes	G							
M	Yes	H		P31MSH			P46MSH		

Technical Specifications and Ordering Information

		Viscount I		Viscount II		
		1000	3000	1000	2000	2600
PUMP SPECIFICATIONS	Output per cycle	188 cc	62 cc	945 cc	580 cc	430 cc
	Maximum working pressure psi (bar, MPa)	1000 (69, 6.9)	3000 (207, 20.7)	1000 (69, 6.9)	2000 (138, 13.8)	2600 (179, 17.9.2)
	Maximum hydraulic input pressure psi (bar, MPa)	1000 (69, 6.9)	1000 (69, 6.9)	1500 (103, 10.3)	1500 (103, 10.3)	1500 (103, 10.3)
	Oil flow @ 60 CPM gpm (lpm)	3 (11.3)	3 (11.3)	12 (45)	12 (45)	12 (45)
	Output at 60 CPM gpm (lpm)	3 (11.3)	1 (3.8)	15 (56.7)	9.2 (34.7)	6.8 (25.9)
INLET/ OUTLET	Hydraulic fluid inlet	3/4 unf (37° flare)	3/4 unf (37° flare)	3/4 npt (f)	3/4 npt(f)	3/4 npt(f)
	Hydraulic fluid outlet	7/8 unf (37° flare)	7/8 unf (37° flare)	1 npt(f)	1 npt(f)	1 npt(f)
	CS pump inlet size	3/4 npt(f)	3/4 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)
	CS pump outlet size	3/8 npt(f)	3/8 npt(f)	1-1/2 npt(f)	1-1/2 npt(m)	1-1/2 npt(m)
	SST pump inlet size	3/4 npt(f)	3/4 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)
	SST pump outlet size	1/2 npt(f)	1/2 npt(f)	2 npt(f)	1-1/2 npt(m)	1-1/2 npt(m)
MANUALS	CS/SST pump manual	307622	307623	307160	311826	311826
	CS/SST lower manual	308117	306981	308043	311825	311825
	Motor manual	307654	307654	307158	307158	307158

			Viscount I		Viscount II		
			1000	3000	1000	2000	2600
PUMP CONSTRUCTION	CARBON STEEL	Nitride NPT					
		Chrome NPT		221080	210313	222834	222892
	STAINLESS STEEL	Electropolished NPT					
		Electropolished BSPP					
		Chrome NPT	218077			222900	222897
		Chrome BSPP					
		Chrome Tri-Clamp (Sanitary)					
		Maxlife NPT					
		Maxlife BSPP					
		Maxlife Tri-Clamp (Sanitary)					

*BSPP models require inlet and outlet seals to perform optimally. See manual 311211, page 9, for accessories.

Viscount

Hydraulic 2-Ball Piston Pumps

2

Replacement Parts Index S = Standard • = Optional

Part No	Description	Pump Part No	218077	221080	210313	222834	222900	222892	222897
NPT	Fittings Material		S	S	S	S	S	S	S
218210	Hydraulic motor repair kit		S	S					
223654	Hydraulic motor repair kit				S	S	S	S	S
224402	Seal Repair Kit - UHMWPE/Neoprene		S						
235635	Seal Repair Kit - PTFE/Leather			S					
224404	Seal Repair Kit - UHMWPE/PTFE		•						
223675	Seal Repair Kit - UHMWPE/Leather			•					
237725	Seal Repair Kit - PTFE			•					
223439	Seal Repair Kit - 4 UHMWPE/2 Leather				S				
222879	Seal Repair Kit - 3 PTFE/2 Leather					S	•		
222875	Seal Repair Kit -3 UHMWPE/2 PTFE					•	S		
222849	Seal Repair Kit - 3 PTFE/2 Leather							S	•
222845	Seal Repair Kit - 3 UHMWPE/2 PTFE							•	S
224443	Seal Repair Kit - 4 UHMWPE/2 Leather				•				
222876	Seal Repair Kit - 5 PTFE					•	•		
222847	Seal Repair Kit - 4 Leather/1 PTFE							•	•
222877	Seal Repair Kit - 4 Leather/1 PTFE					•	•		
222846	Seal Repair Kit - 5 PTFE							•	•
222878	Seal Repair Kit - 3 UHMWPE/2 Leather					•	•		
222848	Seal Repair Kit - 3 UHMWPE/2 Leather							•	•
222880	Seal Repair Kit - 3 UHMWPE/2 Tuff-Stack					•	•		
243624	Throat Seal Packings - Tuff-Stack		•						
243621	Throat/Piston Seal Packings - Tuff-Stack			•					
243623	Piston Seal Packings - Tuff-Stack		•						
243625	Piston Seal Packings - Tuff-Stack		•						
276788	Piston Seal Repair Ki with Wave Spring and Wiper - 3 UHMWPE/2 PTFE					•			
186997	Displacement Rod - SST		S						
223589	Displacement Rod - SST			S					
217478	Displacement Rod - CS				S				
184002	Displacement Rod - SST					S	S		
184276	Displacement Rod - SST							S	S
687119	Displacement Rod - Ceramic					•	•		
687118	Displacement Rod - Ceramic							•	•
186994	Cylinder - SST - No Housing Sleeve		S						
181269	Cylinder - SST				S				
184003	Cylinder - SST					S	S		
184461	Cylinder - SST							S	S
178902	Housing Sleeve - SST - No Cylinder			S					

Note: Tuff-Stack is a proprietary PTFE blend.

Viscount

Hydraulic 2-Ball Piston Pumps

Additional Lower Displacement Pumps

	Lower Displacement		Standard Seal and Ball		Standard Displacement Rod		Standard Cylinder	
	Pump	Mat'l	Kit	Const.	Rod	Const.	Cylinder	Const.
Viscount II 2000	222991	CS	222877	4 Leather/1 PTFE	184002	SST	184003	SST
	222992	CS	222876	5 PTFE	184002	SST	184003	SST
	241648	SST	222880	3 UHMWPE/2 Tuff-Stack	184002	SST	184003	SST
	236226	SST	222875	3 UHMWPE/2 PTFE	184002	SST	184003	SST
	222994	SST	222876	PTFE	184002	SST	184003	SST
	236230	SST	222877	4 Leather/1 PTFE	184002	SST	184003	SST
	222993	SST	222879	3 PTFE/2 Leather	184002	SST	184003	SST
Viscount II 2600	222988	CS	222846	5 PTFE	184276	SST	184461	SST
	241956	SST	222845	3 UHMWPE/2 PTFE	687118	Ceramic	184461	SST
	687055	SST	N/A	3 UHMWPE/2 Tuff-Stack	184276	SST	184461	SST
	C59703	SST w/ carbide balls	222845	3 UHMWPE/2 PTFE	184276	SST	184461	SST

Note: Tuff-Stack is a proprietary PTFE blend.

Accessories

- 206221 Wall Bracket**
For mounting a Viscount II pump to a wall.
- 207365 Wall Bracket**
For mounting a Viscount pump to a wall.
- 109508 Service Tool**
Fits over the top of the displacement rod, making it easier to apply a 24-inch adjustable wrench or 3/4 in drive socket when connecting or disconnecting the rod from the piston assembly.
- 169236 Hydraulic Oil**
5 gal (18.9 l) size container.
- 102644 Shut-off Valve**
For hydraulic supply or return line; 3/4 npt(f).
- 102646 Shut-off Valve**
For hydraulic supply or return line; 1 npt(f).
- 515258 Hydraulic Pressure Control Valve**
3/4 npt inlet, 3/4 npt outlet, 1/4 npt drain, 1/4 npt gauge.
- 208920 Siphon Kit, Aluminum**
Use to siphon fluid from a 5 gal (18.9 l) pail. Includes nylon suction hose 170706, 1 in ID, 4 ft (1.2 m) long, 3/4 npt(f) swivel outlet fitting. Requires 2 in(m) x 1 in(f) bushing (102283) and 1 in(m) x 3/4 in(m) reducing nipple (158555).
- 207484 Siphon Kit, Aluminum**
Use to siphon fluid from a 5 gal (18.9 l) pail. Includes nylon suction hose 214960, 3/4 in ID, 3.5 ft (1.1 m) long, 3/4 npt(f) swivel outlet fitting. Requires 2 in(m) x 1 in(f) bushing (102283) and 1 in(m) x 3/4 in(m) reducing nipple (158555).
- 208259 Siphon Kit, Carbon Steel**
Use to siphon fluid from a 55 gal (200 l) drum. Includes nylon suction hose 214961, 3/4 in ID, 6 ft (1.8 m) long, 3/4 npt(f) swivel outlet fitting and bung adapter. Requires 2 in(m) x 1 in(f) bushing (102283) and 1 in(m) x 3/4 in(m) reducing nipple (158555).
- 220581 Pump Floor Stand**
For mounting a Viscount pump to the floor.
- 222780 Floor Stand**
Use to mount Viscount II 2000 and 2600 pumps to floor. Includes 222274 floor stand, ball valve and 109495 Viton gasket.
- 109507 Socket Service Tool, Viscount II 2600**
Use to connect or disconnect displacement rod from piston assembly. Tool fits over the top of the displacement rod, making it easier to apply a 24 inch adjustable wrench or 3/4 inch drive socket for servicing displacement rod.
- 109508 Socket Service Tool, Viscount II 2000**
Use to connect or disconnect displacement rod from piston assembly. Tool fits over the top of the displacement rod, making it easier to apply a 24 inch adjustable wrench or 3/4 inch drive socket for servicing displacement rod.
- 189305 Assembly Tool**
Required for servicing the yoke and trip rod in the Viscount motor.
- 222976 Connection Kit, Viscount II 2000 and 2600**
Kit to install lower displacement pump under existing Viscount II motor. Includes carbon steel tie rods and other connecting hardware.
- 184278 Packing Nut Wrench, Viscount II 2000 and 2600**
For adjusting throat packing compression in pump.
- 237782 Adapter, Ram**
Use to mount Viscount II 2000 and 2600 pumps to a ram. Includes 2 npt(m) x flange and lug kit.
- 184545 Suction Tube Extension**
Screws into fluid intake to make a drum length pump for Viscount II 2000 and 2600 pumps.

President 1.5:1, 2:1 and 3:1

Pneumatic Mid-Range, High-Flo 4-Ball Piston Pumps

Technical Specifications and Ordering Information



2

Model		1.5:1	2:1	3:1
PUMP SPECIFICATIONS	Output per cycle (cc)	1100	830	610
	Maximum working pressure psi (bar, MPa)	270 (19, 1.9)	360 (25, 2.5)	500 (34, 3.4)
	Maximum air input pressure psi (bar, MPa)	180 (12, 1.2)	180 (12, 1.2)	180 (12, 1.2)
	Output at 60 CPM gpm (lpm)	18.2 (68.9)	13 (49.2)	9.7 (36.9)
INLET/OUTLET SIZE	Pump inlet size	1-1/2 npt(f)	1-1/2 npt(f)	1-1/2 npt(f) 1-1/2 BSPP(f)
	Pump outlet size	1 npt(f)	1 npt(f)	1 npt(f) 1-1/4 BSPP(f)
Pump manual assembly		308793	308793	308793

		TYPE	FITTINGS	THROAT SEALS	1.5:1	2:1	3:1
PUMP CONSTRUCTION	CARBON STEEL	Standard	NPT	UHMWPE/Leather		220560	220561
		Standard	NPT	PTFE			237223
		Stubby	NPT	UHMWPE/Leather			239855
	STAINLESS STEEL	Standard	NPT	UHMWPE/Leather	220562	220563	220564
		Standard	NPT	PTFE			237222
		Standard	BSPP	UHMWPE/Leather			240618
		Standard	BSPP/ Tri-Clamp	UHMWPE/Leather			240618
		Stubby	NPT	UHMWPE/Leather			239854
	CERAMIC	Standard	NPT	UHMWPE/Leather			15D788

Replacement Parts Index S = Standard • = Optional

Part No	Description	220562	220560	220563	220561	237223	239855	220564	15D788	237222	239854	240618	240619
207385	Air motor repair kit	S	S	S	S						S	S	S
220587	Piston Seal Kit - 4UHMWPE	S											
220588	Piston Seal Kit - 4UHMWPE		S	S									
220589	Piston Seal Kit - 4UHMWPE				S	•	S	S	S	•		S	S
224934	Piston Seal Kit - PTFE				•	S	•	•	•	S	•	•	•
224935	Piston Seal Kit - PTFE		•	•									
224936	Piston Seal Kit - PTFE	•											
239872	Throat Seal Kit - UHMWPE/Leather	S	S	S	S		S	S	S		S	S	S
239866	Throat Seal Kit - PTFE	•	•	•	•	S				S	•	•	•
239868	Throat Seal Kit - Leather	•	•	•	•	•	•	•	•	•	•	•	•
181898	Displacement Rod - SST	S	S	S	S	S	S	S	•	S	S	S	S
685970	Displacement Rod - Ceramic	•	•	•	•	•	•	•	S	•	•	•	•
183048	Cylinder - CS	S											
183032	Cylinder - CS		S										
183047	Cylinder - SST												
183049	Cylinder - SST							S	•	S	S	S	S
181899	Cylinder - CS				S	S	S						
686614	Cylinder - Ceramic	•											
685971	Cylinder - Ceramic				•	•	•	•	S	•	•	•	•

President 1.5:1, 2:1 and 5:1

Pneumatic Mid-Range, High-Flo 4-Ball Piston Pumps

Accessories

- 220581 Pump Floor Stand**
For mounting High-Flo pumps in a suction-feed system.
- 206221 Pump Wall Bracket**
For mounting a President, Senator or Bulldog High-Flo pump to a wall.
- 218028 Portable Cart**
For mounting a President, Senator or Bulldog High-Flo pump to a 2-wheel cart.
- 236054 Siphon Tube, Carbon Steel**
Use to siphon fluid from a 55 gal (200 l) drum. Includes nylon suction hose 109105, 3/4 in ID, 6 ft (1.8 m) long, 1-1/2 in npt(m) outlet fitting.
- 239805 Intake Valve Seat with relief valve, carbide seat**
- 239865 Intake Valve Seat without relief valve, carbide seat**
- 239869 Throat Cartridge Conversion Kit**
Converts Series A Mid-Range High-Flo pump designs to a throat cartridge design. Includes stainless steel pump housing, throat cartridge and ptfe o-ring.
- 207579 Padded Pliers**
For servicing President air trip rod.
- 110335 Packing Nut Wrench**
For adjusting throat packings compression in pump.
- 171818 Adjustment Tool**
A 0.145 in (3.7 mm) gauge used to ensure proper clearance between the poppets and the piston on the President air motor.
- 239867 Intake Seat Conversion Kit**
Converts Series A Mid-Range High-Flo pump designs to intake seat design with relief valve. Includes intake seat with relief valve, stainless intake housing, intake seat without relief valve, gaskets, washers and cap screws.
- 221159 Pump Mounting Adapter Kit, President**
Provides adapter plate and tie rods for mounting President motor to a Mid-Range High-Flo displacement pump.
- 243801 President Remote Exhaust Muffler Kit**
Kit allows for remote exhaust piping to be installed to President air motor exhaust port. Redirects noise and exhaust contaminants to a remote location. Kit includes air motor covers with 3/4 npt(f) exhaust port and cork gaskets.
- 243421 President Muffler Kit**
Kit includes external muffler and plates and gaskets used in muffler kit 243801. External muffler provides noise reduction to President air motor.

High-Flo® & High-Flo Plus

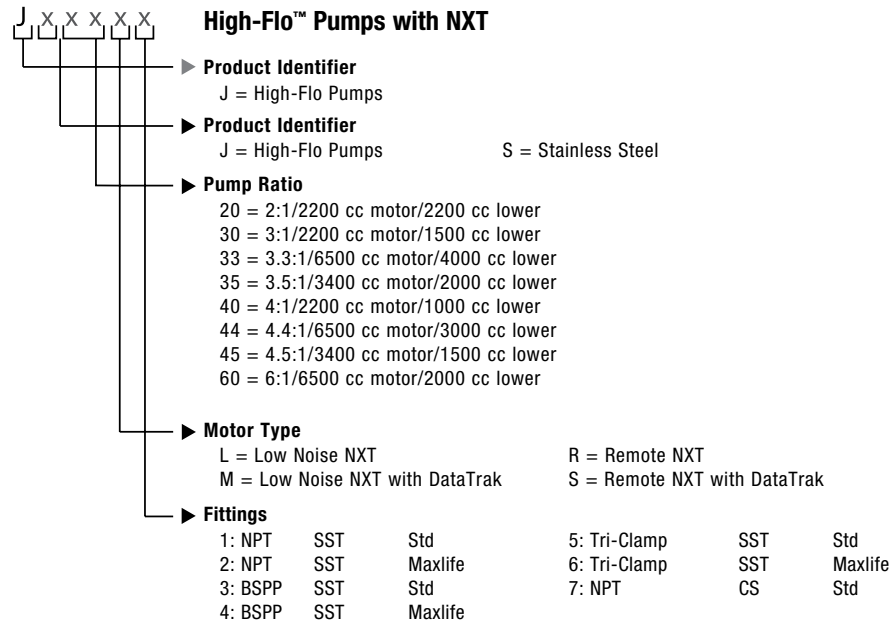
4-Ball Piston Pumps

2



Use the Smart Numbering System!*

The six-digit Smart Numbering System can help you order quickly and accurately. Simply follow the diagram for the part you want and build your order.



* Some configurations may not be available.

Accessories

Mounting Accessories

- 110335 Packing wrench
- 218742 Floor stand (High-Flo Plus)
- 247312 Wall mount and floor stand adapter for 2200 motor
- 253679 Wall mount bracket
- 253692 Floor stand
- 255143 Wall mount bracket kit
- 289279 Cart adapter kit
- 287884* Heavy duty cart
- 287919* Light duty cart

Pump Accessories

- 193424 Seal to adapter 196321
- 196321 BSPP to NPT adapter
- 261721* Wet cup booster cup (for mid-range High-Flo pumps)
- NXT011 Integrated air control
- NXT031 Integrated air control (for JX60XX pumps)
- NXT206 DataTrak upgrade kit for the NXT 2200
- NXT306 DataTrak upgrade kit for the NXT 3400
- NXT606 DataTrak upgrade kit for the NXT 6500

Suction Kits

- 247472 For 1.25 in(m) 5 gallon CS suction kit
- 247473 For 1.25 in(m) 55 gallon CS suction kit
- 247475 For 1.5 in(f) 5 gallon SST suction kit
- 247476 For 1.5 in(f) 55 gallon SST suction kit
- 247477 For 2 in(f) 5 gallon SST suction kit
- 247478 For 2 in(f) 55 gallon SST suction kit

Fluid Filter Kits

- 247474 Aluminum fluid filter kit
- 247479 For .75 in(f) SST fluid filter kit
- 247480 For 1 in(f) SST fluid filter kit

High-Flo & High-Flo Plus

4-Ball Piston Pumps

Technical Specifications and Ordering Information

2

		2:1	3:1	3.3:1	3.5:1	4:1	4.4:1	4.5:1	6:1
PUMP SPECIFICATIONS	Output per cycle	2000 cc	1500 cc	4000 cc	2000 cc	1000 cc	3000 cc	1500 cc	2000 cc
	Motor Size	NXT 2200	NXT 2200	NXT 6500	NXT 3400	NXT 2200	NXT 6500	NXT 3400	NXT 6500
	Maximum Working Pressure psi (bar, MPa)	200 (14, 1.4)	290 (20, 2.0)	325 (22, 2.2)	340 (23, 2.3)	400 (28, 2.8)	460 (32, 3.2)	450 (31, 3.1)	500 (34, 3.4)
	Maximum Air Input Pressure psi (bar,MPa)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	78 (5.4, 0.54)
	Output at 60 CPM gpm (lpm)	31.9 (119.3)	23.2 (87.9)	63 (238.6)	31.5 (119.3)	16.9 (64)	47.3 (179)	23.2 (87.9)	31.5 (119.3)
	INLET/OUTLET SIZE	CS Pump Inlet Size	1.5" npt (f)	1.5" npt (f)	2" npt (f)	1.5" npt (f)	1.5" npt (f)	2" npt (f)	1.5" npt (f)
CS Pump Outlet Size		1" npt (f)	1" npt (f)	2" npt (f)	1" npt (f)	1" npt (f)	2" npt (f)	1" npt (f)	2" npt (f)
SST Pump Inlet Size		1.5" npt (f)	1.5" npt (f)	2" npt (f)	1.5" npt (f)	1.5" npt (f)	2" npt (f)	1.5" npt (f)	2" npt (f)
SST Pump Outlet Size		1" npt (f)	1" npt (f)	2" npt (f)	1" npt (f)	1" npt (f)	2" npt (f)	1" npt (f)	2" npt (f)
SST Pump Inlet Size		1.5" BSPP (f)	1.5" BSPP (f)	2" BSPP (f)	1.5" BSPP (f)	1.5" BSPP (f)	2" BSPP (f)	1.5" BSPP (f)	2" BSPP (f)
SST Pump Outlet Size		1.25" BSPP (f)	1.25" BSPP (f)	2" BSPP (f)	1.25" BSPP (f)	1.25" BSPP (f)	2" BSPP (f)	1.25" BSPP (f)	2" BSPP (f)
SST Pump Inlet Size		2" Tri-Clamp	2" Tri-Clamp	N/A	2" Tri-Clamp	2" Tri-Clamp	N/A	2" Tri-Clamp	N/A
SST Pump Outlet Size		2" Tri-Clamp	2" Tri-Clamp	N/A	2" Tri-Clamp	2" Tri-Clamp	N/A	2" Tri-Clamp	N/A
MANUALS	Pump Manual	311211	311211	311831	311211	311211	311831	311211	311831
	Lower Manual	311690	311690	311832	311690	311690	311832	311690	311832
	Motor Manual	311238	311238	311238	311238	311238	311238	311238	311238

		MOTOR TYPE	DATATRAK INCLUDED	FITTINGS/LOWER MATERIALS	2:1	3:1	3.3:1	3.5:1	4:1	4.4:1	4.5:1	6:1	
PUMP CONSTRUCTION	CARBON STEEL	L	1		JC20L1		JC33L1	JC35L1		JC44L1		JC60L1	
		L	7			JC30L7			JC40L7		JC45L7		
		M	Yes	1		JC20M1		JC33M1	JC35M1		JC44M1		JC60M1
		M	Yes	7			JC30M7			JC40M7		JC45M7	
		L	1			JS20L1	JS30L1	JS33L1	JS35L1	JS40L1	JS44L1	JS45L1	JS60L1
		L	2			JS20L2	JS30L2		JS35L2	JS40L2		JS45L2	
	L	3			JS20L3	JS30L3	JS33L3	JS35L3	JS40L3	JS44L3	JS45L3	JS60L3	
	L	4			JS20L4	JS30L4		JS35L4	JS40L4		JS45L4		
	L	5			JS20L5	JS30L5		JS35L5	JS40L5		JS45L5		
	L	6			JS20L6	JS30L6		JS35L6	JS40L6		JS45L6		
	M	Yes	1		JS20M1	JS30M1	JS33M1	JS35M1	JS40M1	JS44M1	JS45M1	JS60M1	
	M	Yes	2		JS20M2	JS30M2		JS35M2	JS40M2		JS45M2		
	M	Yes	3		JS20M3	JS30M3	JS33M3	JS35M3	JS40M3	JS44M3	JS45M3	JS60M3	
	M	Yes	4		JS20M4	JS30M4		JS35M4	JS40M4		JS45M4		
	M	Yes	5		JS20M5	JS30M5		JS35M5	JS40M5		JS45M5		
	M	Yes	6		JS20M6	JS30M6		JS35M6	JS40M6		JS45M6		
	R	1			JS20R1	JS30R1	JS33R1	JS35R1	JS40R1	JS44R1	JS45R1	JS60R1	
	R	2			JS20R2	JS30R2		JS35R2	JS40R2		JS45R2		
	R	3			JS20R3	JS30R3	JS33R3	JS35R3	JS40R3	JS44R3	JS45R3	JS60R3	
	R	4			JS20R4	JS30R4		JS35R4	JS40R4		JS45R4		
	R	5			JS20R5	JS30R5		JS35R5	JS40R5		JS45R5		
	R	6			JS20R6	JS30R6		JS35R6	JS40R6		JS45R6		
	S	Yes	1		JS20S1	JS30S1	JS33S1	JS35S1	JS40S1	JS44S1	JS45S1	JS60S1	
	S	Yes	2		JS20S2	JS30S2		JS35S2	JS40S2		JS45S2		
	S	Yes	3		JS20S3	JS30S3	JS33S3	JS35S3	JS40S3	JS44S3	JS45S3	JS60S3	
	S	Yes	4		JS20S4	JS30S4		JS35S4	JS40S4		JS45S4		
S	Yes	5		JS20S5	JS30S5		JS35S5	JS40S5		JS45S5			
S	Yes	6		JS20S6	JS30S6		JS35S6	JS40S6		JS45S6			

High-Flo & High-Flo Plus

4-Ball Piston Pumps

Replacement Parts Index

S = Standard • = Optional

Part No	Description	2:1	3:1	3.3:1	3.5:1	4:1	4.4:1	4.5:1	6:1
235854	Piston Seal Kit - PTFE			•					
235855	Piston Seal Kit - PTFE						•		
235856	Piston Seal Kit - PTFE								•
277359	Piston Seal Kit - PTFE	•			•				
277361	Piston Seal Kit - PTFE					•			
277363	Piston Seal Kit - PTFE		•					•	
243727	Piston Seal Kit - UHMWPE			S					
243728	Piston Seal Kit - UHMWPE						S		
243729	Piston Seal Kit - UHMWPE								S
277358	Piston Seal Kit - UHMWPE	S			S				
277360	Piston Seal Kit - UHMWPE					S			
277362	Piston Seal Kit - UHMWPE		S					S	
277356	Throat Seal Kit - Leather	•	•		•	•		•	
239866	Throat Seal Kit - PTFE	•	•		•	•		•	
243672	Throat Seal Kit - PTFE			•			•		•
243671	Throat Seal Kit - UHMWPE/Leather			S			S		S
277357	Throat Seal Kit - UHMWPE/Leather	S	S		S	S		S	
243673	Throat Seal Kit UHMWPE TripleLip™			•			•		•
685954	Piston Rod - Ceramic			•			•		•
15H280	Piston Rod - Chromex	S	S		S	S		S	
15H589	Piston Rod - Maxlife	S	S		S	S		S	
196228	Piston Rod - SS/PlasmaCoat™			S			S		S
185197	Piston Rod - SST/Chrome			•			•		•
686522	Cylinder - Ceramic			•					
183047	Cylinder - Chrome					S			
183048	Cylinder - Chrome		S					S	
156882	Cylinder - Chrome	S			S				
180497	Cylinder - Chrome (SST)		S						
180498	Cylinder - Chrome (SST)						S		
180499	Cylinder - Chrome (SST)								S
15H451	Cylinder - Maxlife	S			S				
15H452	Cylinder - Maxlife					S			
15H453	Cylinder - Maxlife		S					S	
183032	Cylinder - Niride (CS)					S			
181900	Cylinder - Nitride (CS)		S					S	
243731	Pump Lower CS NPT								S
243732	Pump Lower CS NPT						S		
243734	Pump Lower SS BSPP								S
243735	Pump Lower SS BSPP						S		
243736	Pump Lower SS BSPP			S					
243771	Pump Lower SS NPT								S
243772	Pump Lower SS NPT						S		
243773	Pump Lower SS NPT			S					
255143	Wall Mount Bracket Kit	•	•		•	•		•	

Graco recommends 20 cpm or less for supply applications and 12 cpm or less for circulation applications.

Viscount I+ and Viscount II

4-Ball Hydraulic Pumps

Technical Specifications and Ordering Information



2

		Viscount I+			Viscount II			
		225	300	450	300	400	460	600
PUMP SPECIFICATIONS	Output per cycle	1500 cc	1000 cc	610 cc	4000 cc	3000 cc	2000 cc	2000 cc
	Maximum working pressure psi (bar, MPa)	225 (16, 1.6)	300 (21, 2.1)	450 (31, 3.1)	300 (21, 2.1)	400 (28, 2.8)	460 (32, 3.2)	600 (41, 4.1)
	Maximum hydraulic input pressure psi (bar, MPa)	1500 (103, 10.3)	1500 (103, 10.3)	1500 (103, 10.3)	1500 (103, 10.3)	1500 (103, 10.3)	1200 (83, 8.3)	1500 (103, 10.3)
	Oil flow @ 60 CPM gpm (lpm)	3.5 (13.2)	3.5 (13.2)	3 (11.3)	12 (45)	12 (45)	12 (45)	12 (45)
	Output at 60 CPM gpm (lpm)	23.2 (87.9)	16.9 (64)	9.6 (36.4)	63 (239)	47 (179)	31.7 (120)	31 (119)
INLET/OUTLET SIZE	Hydraulic fluid inlet	3/4 in (37° flare)	3/4 in (37° flare)	3/4 in (37° flare)	3/4 npt (f)	3/4 npt(f)	3/4 npt(f)	3/4 npt(f)
	Hydraulic fluid outlet	3/4 in (37° flare)	3/4 in (37° flare)	3/4 in (37° flare)	1 npt(f)	1 npt(f)	1 npt(f)	1 npt(f)
	CS pump inlet size	1-1/2 npt(f)	1-1/2 npt(f)	1-1/2 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)
	CS pump outlet size	1 npt(f)	1 npt(f)	1 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)
	SST pump inlet size	1-1/2 npt(f)	1-1/2 npt(f)	1-1/2 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)
	SST pump outlet size	1 npt(f)	1 npt(f)	1 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)	2 npt(f)
MANUALS	CS/SST pump manual	311211	311211	311211	311831	311831	311211	311831
	CS/SST lower manual	311690	311690	311690	311832	311832	311690	311832
	Motor manual	308330	308330	308330	308048	308048	308048	308048

			Viscount I+			Viscount II				
			225	300	450	300	400	460	600	
PUMP CONSTRUCTION	CARBON STEEL	Nitride	NPT	253647	253646					
		Chrome	NPT		236601	243742	243741	247356	243740	
	STAINLESS STEEL	Electro-polished	NPT				243755	243753		243751
			BSPP				243756	243754		243752
		Chrome	NPT	253643	253642	236602 244142	248345	348343	247355*	
			BSPP	253649	253648		348346	348344	247357	
			Tri-Clamp (Sanitary)	253653	253652				247359	
		Maxlife	NPT	253645	253644				247361	
			BSPP	253651	253650				247358*	
			Tri-Clamp (Sanitary)	253655	253654				247360	

*BSPP models require inlet and outlet seals to perform optimally. See manual 311211, page 9, for accessories.

Viscount I+ and Viscount II

4-Ball Hydraulic Pumps

2

Accessories

Viscount I+

- 206221 Wall Bracket**
For mounting a Viscount I+ High-Flo pump to a wall.
- 220581 Pump Floor Stand**
For mounting High-Flo pumps in a suction feed system.
- 189305 Assembly Tool**
Required for servicing the yoke and trip rod in the motor.
- 110335 Packing Nut Wrench**
For adjusting throat packings compression in pump.
- 239805 Intake Valve Seat with Relief Valve, Carbide Seat**
- 239865 Intake Valve Seat Without Relief Valve, Carbide Seat**
- 515258 Hydraulic Pressure Control Valve**
3/4 npt inlet, 3/4 npt outlet, 1/4 npt drain, 1/4 npt gauge.
- Hydraulic Shutoff Valves**
- 512150 Maximum working pressure: 2000 psi**
(13.8 MPa, 138 bar). 1/2 npt (f/b).
- 102644 Maximum working pressure: 3000 psi**
(20.7 MPa, 207 bar). 3/4 npt (f/b).
- 102646 Maximum working pressure: 3000 psi**
(20.7 MPa, 207 bar). 1 npt (f/b).
- 169236 Hydraulic Oil**
5 gal (18.9 l) size.
- 236714 Mounting Plate Kit**
For mounting a Viscount I+ hydraulic motor and reciprocator to a Mid-Range High-Flo displacement pump.
- 236054 Siphon Tube, Carbon Steel**
Use to siphon fluid from a 55 gal (200 l) drum. Includes nylon suction hose 109105, 3/4 in ID, 6 ft (1.8 m) long, 1-1/2 in npt(m) outlet fitting.
- 239869 Throat Cartridge Conversion Kit**
Converts Series A Mid-Range High-Flo pump designs to a throat cartridge design. Includes stainless steel pump housing, throat cartridge and PTFE o-ring.
- 239867 Intake Seat Conversion Kit**
Converts series A Mid-Range High-Flo pump designs to intake seat design with relief valve. Includes intake seat with relief valve, stainless intake housing, intake seat without relief valve, gaskets, washers and cap screws.
- 221159 Pump Mounting Adapter Kit, Viscount I+**
Provides adapter plate and tie rods for mounting Viscount I+ motor/reciprocator to a Mid-Range High-Flo displacement pump.

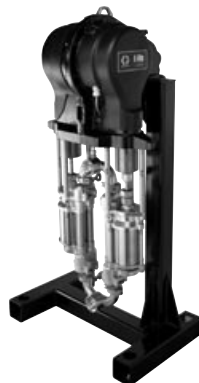
Viscount II

- 218742 Pump Floor Stand**
For mounting High-Flo pump to the floor.
- 196321 Pump Adapter Fitting**
Use to convert a BSPP thread High-Flo Plus pump to a npt thread, 2 in BSPP(m) x 2 in npt(f).
- 193424 Pump Adapter Fitting Seal**
Seal used with pump adapter fitting (196321).
- 169236 Hydraulic Fluid**
5 gal (18.9 l) size.
- 237744 Intake Valve Seat, with Internal Pressure Relief Valve**
- 180529 Intake Valve Seat, without Relief Valve**
- 243948 Coupling Kit with Displacement Rod, PlasmaCoat**
Includes coupling collars, coupling nut and 196228 SST/PlasmaCoat displacement rod.
- 222649 Coupling Kit with Displacement Rod, Chrome**
Includes coupling collars, coupling nut and 185197 SST/Chrome displacement rod.
- 220385 Seat Puller Kit**
Tool to make removal of the seats from the manifolds easier.
- High-Flo Plus Throat Conversion Kits**
Converts High-Flo pump designs to a throat cartridge.
- 243667 Cartridge Wet Cup**
Includes wet cup only.
- 243763 Throat Cartridge Kit**
Includes wet cup and UHMWPE/Leather throat packing kit.
- 243764 Throat Cartridge Kit**
Includes wet cup and PTFE/Leather throat packing kit.
- 243765 Throat Cartridge Kit**
Includes wet cup and UHMWPE Triple Lip™ throat kit.
- High-Flo Plus Piston Conversion Kits**
Converts High-Flo pump designs to the new High-Flo Plus piston plates and piston seal.
- 243707 High-Flo Plus 300**
Includes High-Flo Plus piston, jam nut, o-rings and piston seal kit. For Viscount II 300 pumps.
- 243706 High-Flo Plus 400**
Includes High-Flo Plus piston, jam nut, o-rings and piston seal kit. For Viscount II 400 pumps.
- 243705 High-Flo Plus 600**
Includes High-Flo Plus piston, jam nut, o-rings and piston seal kit. For Viscount II 600 pumps.

Hydraulic Shutoff Valves

- 512150 Maximum working pressure: 2000 psi**
(13.8 MPa, 138 bar). 1/2 npt (f/b).
- 102644 Maximum working pressure: 3000 psi**
(20.7 MPa, 207 bar). 3/4 npt (f/b).
- 102646 Maximum working pressure: 3000 psi**
(20.7 MPa, 207 bar). 1 npt (f/b).

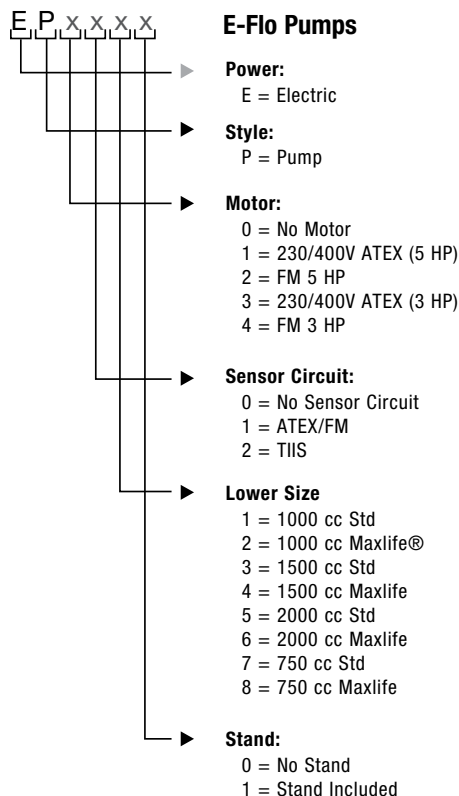
Technical Specifications and Ordering Information



		1500	2000	3000	4000
PUMP SPECIFICATIONS	Output per cycle	1500 cc	2000 cc	3000 cc	4000 cc
	Electric AC motor size	3 HP	5 HP	5 HP	5 HP
	Max Working Pressure psi (bar, MPa)	460 (32, 3.2)	460 (32, 3.2)	330 (23, 2.3)	250 (17, 1.7)
	Output at 20 CPM gpm (lpm)	8.1 (31)	12 (45)	16.2 (61)	22.6 (85.5)
INLET/ OUTLET	Inlet size	1-1/2 in Tri-Clamp	2 in Tri-Clamp	2 in Tri-Clamp	2 in Tri-Clamp
	Outlet size	1-1/2 in Tri-Clamp	2 in Tri-Clamp	2 in Tri-Clamp	2 in Tri-Clamp
MANUALS	Pump manual	311593	311593	311593	311593
	Lower manual	311690	311690	311690	311690
	Motor manual	311593	311593	311593	311593

Use the Smart Numbering System!*

The six-digit Smart Numbering System can help you order quickly and accurately. Simply follow the diagram for the part you want and build your order.



E-Flo

Electric Circulating Pumps

Ordering Information (continued)

MOTOR TYPE	SENSOR CIRCUIT	LOWER	STAND	1500	2000	3000	4000
0	0	C	0	EP0070	EP0010	EP0020	EP0030
0	0	C	1	EP0071	EP0011	EP0021	EP0031
0	0	M	0	EP0080	EP0040	EP0050	EP0060
0	0	M	1	EP0081	EP0041	EP0051	EP0061
0	1	C	0	EP0170	EP0110	EP0120	EP0130
0	1	C	1	EP0171	EP0111	EP0121	EP0131
0	1	M	0	EP0180	EP0140	EP0150	EP0160
0	1	M	1	EP0181	EP0141	EP0151	EP0161
0	2	C	0	EP0270	EP0210	EP0220	EP0230
0	2	C	1	EP0271	EP0211	EP0221	EP0231
0	2	M	0	EP0280	EP0240	EP0250	EP0260
0	2	M	1	EP0281	EP0241	EP0251	EP0261
1	0	C	0		EP1010	EP1020	EP1030
1	0	C	1		EP1011	EP1021	EP1031
1	0	M	0		EP1040	EP1050	EP1060
1	0	M	1		EP1041	EP1051	EP1061
1	1	C	0		EP1110	EP1120	EP1130
1	1	C	1		EP1111	EP1121	EP1131
1	1	M	0		EP1140	EP1150	EP1160
1	1	M	1		EP1141	EP1151	EP1161
2	0	C	0		EP2010	EP2020	EP2030
2	0	C	1		EP2011	EP2021	EP2031
2	0	M	0		EP2040	EP2050	EP2060
2	0	M	1		EP2041	EP2051	EP2061
2	1	C	0		EP2110	EP2120	EP2130
2	1	C	1		EP2111	EP2121	EP2131
2	1	M	0		EP2140	EP2150	EP2160
2	1	M	1		EP2141	EP2151	EP2161
3	0	C	0	EP3070			
3	0	C	1	EP3071			
3	1	C	0	EP3170			
3	1	C	1	EP3171			
3	0	M	0	EP3080			
3	0	M	1	EP3081			
3	1	M	0	EP3180			
3	1	M	1	EP3181			
4	0	C	0	EP4070			
4	0	C	1	EP4071			
4	1	C	0	EP4170			
4	1	C	1	EP4171			
4	0	M	0	EP4080			
4	0	M	1	EP4081			
4	1	M	0	EP4180			
4	1	M	1	EP4181			

Merkur™ Bellows

Bellows Piston Pumps

Technical Specifications and Ordering Information

Model	5:1	12:1	15:1	15:1	23:1	24:1	25:1	35:1
PUMP SPECIFICATIONS								
Pump Volume per Cycle	150 cc	100 cc	50 cc	150 cc	100 cc	150 cc	50 cc	100 cc
Air Motor Displacement	400 cc	700 cc	400 cc	1200 cc	1200 cc	1800 cc	700 cc	1800 cc
Maximum Fluid Outlet Pressure psi (bar, MPa)	500 (35, 3.5)	1200 (83, 8.3)	1500 (103, 10.3)	1500 (103, 10.3)	2300 (158, 15.8)	2400 (165, 16.5)	2500 (172, 17.2)	3500 (241, 24.1)
Maximum Air Inlet Pressure psi (bar, MPa)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)
Fluid Flow @ 60 CPM gpm (lpm)	2.4 (9.0)	1.6 (6.0)	0.8 (3.0)	2.4 (9.0)	1.6 (6.0)	2.4 (9.0)	0.8 (3.0)	1.6 (6.0)
Air Consumption @ 100 psi (7 bar) @ 20 cpm	6 scfm (0.17 m3/min)	9 scfm (0.17 m3/min)	6 scfm (0.17 m3/min)	17 scfm (0.48 m3/min)	17 scfm (0.48 m3/min)	26 scfm (0.74 m3/min)	9 scfm (0.17 m3/min)	26 scfm (0.74 m3/min)
INLET/OUTLET								
Fluid Inlet Size	1" npt(m)	3/4" npt(m)	3/4" npt(m)	1" npt(m)	3/4" npt(m)	1" npt(m)	3/4" npt(m)	3/4" npt(m)
Fluid Outlet Size	3/4" npt(m)	3/8" npt(m)	3/8" npt(m)	3/4" npt(m)	3/8" npt(m)	3/4" npt(m)	3/8" npt(m)	3/8" npt(m)
Air Inlet (Air Controls)	3/8" npt(f)	3/8" npt(f)	3/8" npt(f)	3/8" npt(f)	3/8" npt(f)	3/8" npt(f)	3/8" npt(f)	3/8" npt(f)

Seal	Mount	Package	Drain Valves	Fluid Filter	DataTrak										
V-Packing	Wall	Pump		•		G05B01	G12B01	G15B01	G15B51	G23B01	G24B01	G25B01	G35B01		
				•	•	G05B02	G12B02	G15B02	G15B52	G23B02	G24B02	G25B02	G35B02		
						G05B05	G12B05	G15B09	G15B59	G23B09	G24B09	G25B09	G35B09		
					•	G05B06	G12B06	G15B10	G15B60	G23B10	G24B10	G25B10	G35B10		
		AA		•				G15B03	G15B53	G23B03	G24B03	G25B03	G35B03		
				•	•			G15B04	G15B54	G23B04	G24B04	G25B04	G35B04		
								G15B11	G15B61	G23B11	G24B11	G25B11	G35B11		
						•		G15B12	G15B62	G23B12	G24B12	G25B12	G35B12		
		Cart	Pump		•	•		G05B03	G12B03	G15B05	G15B55	G23B05	G24B05	G25B05	G35B05
						•	•	G05B04	G12B04	G15B06	G15B56	G23B06	G24B06	G25B06	G35B06
							•	G05B07	G12B07	G15B13	G15B63	G23B13	G24B13	G25B13	G35B13
							•	G05B08	G12B08	G15B14	G15B64	G23B14	G24B14	G25B14	G35B14
	AA			•	•			G15B07	G15B57	G23B07	G24B07	G25B07	G35B07		
				•	•	•		G15B08	G15B58	G23B08	G24B08	G25B08	G35B08		
	U-Cup	Wall	Pump		•		G05B09	G12B09	G15B17	G15B67	G23B17	G24B17	G25B17	G35B17	
					•	•	G05B10	G12B10	G15B18	G15B68	G23B18	G24B18	G25B18	G35B18	
							G05B13	G12B13	G15B25	G15B75	G23B25	G24B25	G25B25	G35B25	
						•	G05B14		G15B26	G15B76	G23B26	G24B26	G25B26	G35B26	
			AA		•	•			G15B19	G15B69	G23B19	G24B19	G25B19	G35B19	
					•	•	•		G15B20	G15B70	G23B20	G24B20	G25B20	G35B20	
								G15B27	G15B77	G23B27	G24B27	G25B27	G35B27		
						•		G15B28	G15B78	G23B28	G24B28	G25B28	G35B28		
	Cart		Pump		•	•		G05B11	G12B11	G15B21	G15B71	G23B21	G24B21	G25B21	G35B21
						•	•	G05B12	G12B12	G15B22	G15B72	G23B22	G24B22	G25B22	G35B22
						•	G05B15	G12B15	G15B29	G15B79	G23B29	G24B29	G25B29	G35B29	
						•	G05B16	G12B16	G15B30	G15B80	G23B30	G24B30	G25B30	G35B30	
AA			•	•			G15B23	G15B73	G23B23	G24B23	G25B23	G35B23			
			•	•	•		G15B24	G15B74	G23B24	G24B24	G25B24	G35B24			
						G15B31	G15B81	G23B31	G24B31	G25B31	G35B31				
			•			G15B32	G15B82	G23B32	G24B32	G25B32	G35B32				

Note: Graco recommends 20 cpm or less for intermittent pumping applications and 12 cpm or less for continuous pumping applications.



Merkur Bellows

Bellows Piston Pumps

2

Accessories

Spray Guns

Refer to the spray gun brochure for additional model numbers. All guns include tip of choice.

- 24C853 G15 Carbide Air-Assisted Spray Gun
- 24C855 G40 Air-Assisted Spray Gun
- 24C857 G40 RAC Air-Assisted Spray Gun
- XTR501 XTR-5 Airless Spray Gun
- 244573 PRO Xs AA Smart Electrostatic Spray Gun

Accessories

- 238926 Back Pressure Regulator
- 102397 Fluid Gauge
3000 psi (206 bar, 20.6 MPa)
- 238890 Fluid Regulator
- 243340 Pail Cover with Agitator
Use to agitate material in a 5 gal (18.9 l) pail
- 222121 Fluid Regulator, Stainless Steel
Maximum working pressure: 1500 psi (103 bar, 10.3 MPa)
Regulator range: 150-1200 psi (10-28 bar, 1-8.2 MPa)
- 24A587 Pump Outlet Fluid Filter, Stainless Steel
60 mesh (250 micron), 5000 psi (350 bar, 25 MPa)
- 256425 Fluid Filter Drain Valve, Stainless Steel
5000 psi (350 bar, 35 MPa)
- 224458 Replacement Filter Screen Element
3-pack elements, 30 mesh, SST
- 224459 Replacement Filter Screen Element
3-pack elements, 60 mesh, SST
- 24A540 Air Control Gauge Covers
5 sheets of 10 covers
- 24B187 Second AA Gun Kit
Includes air regulator and gauge
- 239850 Heater
120 (v)

DataTrak

- 24A575 Upgrade Kit for 400 cc Air Motors
- 24A576 Upgrade Kit for 700 cc, 1200 cc and 1800 cc Air Motors
- 24A592 Upgrade Kit for DataTrak with Cycle Count Only

Suction Hoses

- 24A954 55 gal (208 l) Drum Suction Hose and Strainer, 3/4 in fluid inlet
- 24B598 55 gal (208 l) Drum Suction Hose and Strainer, 1 in fluid inlet
- 24B424 PTFE Lined Suction Hose for 5 gal (19 l) Pails and Strainer, 3/4 in inlet
- 24B425 PTFE Lined Suction Hose for 5 gal (19 l) Pails and Strainer, 1 in inlet

Gun Hoses

- 256390 25 ft Air Hose
- 241812 25 ft Fluid Hose: 3300 psig (228 bar)
- 24A955 50 ft Bundled Air and Fluid Hose: 3300 psig (228 bar)
- 256389 50 ft Air Hose
- 24B562 50 ft Fluid Hose: 3300 psig (228 bar)
- 24A588 Hose Clips: Pack of 10

Instruction and Parts Manuals

- [312799](#) Merkur Bellows AA and Airless Spray Package
- [312798](#) Merkur Electrostatic Spray Package
- [312795](#) Merkur Bellows Pump Assembly
- [312793](#) Merkur Bellows Displacement Pump
- [312796](#) Merkur Air Motor

Glutton®

Dual Piston Pumps

Technical Specifications and Ordering Information



Model		Glutton 4:1	Glutton 12:1	Glutton 25:1
PUMP SPECIFICATIONS	Output per cycle	355 cc	128 cc	58 cc
	Max working pressure - psi (bar, MPa)	400 (28, 2.8)	1200 (82, 8.2)	2500 (170, 17.0)
	Max air input pressure - psi (bar, MPa)	100 (7, 0.7)	100 (7, 0.7)	100 (7, 0.7)
	Output at 20 cpm - gpm (lpm)	5.6 (21.2)	2 (7.5)	0.9 (3.4)
INLET/OUTLET	Pump inlet size	1.25 npt(f)	1.25 npt(f)	1.25 npt(f)
	Pump outlet size	1 npt(f)	1 npt(f)	3/4 npt(f)
Pump manual		307843	307843	307843

Seals		Glutton 4:1	Glutton 12:1	Glutton 25:1	
PUMP CONSTRUCTION	CARBON STEEL	Nylon	237008	237009	237010
		UHMWPE	220663	220664	220665
	STAINLESS STEEL	Nylon	237011	237012	237013
		UHMWPE	220666	220667	220668

Replacement Parts Index S = Standard • = Optional

Part No	Description	Pump Part No	220663	220666	237008	237011	220664	220667	237009	237012	220665	220668	237010	237013
220656	Air Valve and pilot valve repair kit		•	•	•	•	S	S	S	S	S	S	S	S
24C134	Piston Seals and Bellows kit - HMWPE		S	S	•	•								
24C135	Piston Seals and Bellows kit - Nylon		•	•	S	S								
221136	Piston Seals And Bellows Kit - UHMWPE						S	S	•	•				
237017	Piston Seals And Bellows Kit - Nylon						•	•	S	S				
220950	Piston Seals And Bellows Kit - UHMWPE										S	S	•	•
237016	Piston Seals And Bellows Kit - Nylon										•	•	S	S
220658	Piston seal kit - Urethane		•	•	•	•								
220660	Piston Seal Kit - Urethane										•	•	•	•
221134	Carbide ball and seat kit (2 each)		S	S	S	S	•	•	•	•				
221135	Carbide Ball And Seat Kit (qty: 2 each)										•	•	•	•
189432	Fluid piston - SST		S	S	S	S								
686499	Fluid piston - Ceramic		•	•	•	•								
189433	Fluid Piston - SST						S	S	S	S				
189434	Fluid Piston - SST										S	S	S	S

Accessories

- 206221 Wall Bracket**
For mounting Glutton pump on wall.
- 102969 Loctite® High Strength Sealant**
To secure piston shafts to the piston stud.
- 223319 Return Tube Kit**
Use to return circulated fluid back to a 55 gal (200 l) drum through a drum cover. Includes SST return tube, SST bushing and SST elbow.
- 208259 55 Gallon (200 Liter) Suction Kit**
Suction hose (3/4 in ID x 6 ft (1.8 m)), elbow, bung adapter, riser tube, 3/4 in npt(f) outlet fitting.
- 237949 Stainless Steel Drum Cover Kit**
For 55 gal (200 l) drum applications to siphon directly from a drum. Includes SST drum cover, agitator gasket, access hole plug and fasteners.
- 204385 Elevator with Fixed Mounting**
Use with drum cover kit (237949) and air control kit (237579) to raise and lower pump when changing drums.
- 237579 Air Control Kit**
Use with elevator 204385 to raise and lower drum cover.

Technical Specifications and Ordering Information

2



Model		Triton 1:1 150 Series	Triton 3:1 150 Series	Triton 3:1 350 Series	
PUMP SPECIFICATIONS	Output per cycle	150 cc	150 cc	350cc	
	Max working pressure psi (bar, MPa)	115 (8, 0.8)	300 (21, 2.1)	260 (18, 1.8)	
	Max air input pressure psi (bar, MPa)	115 (8, 0.8)	100 (7, 0.7)	88 (6, 0.6)	
	Output at 20 CPM gpm (lpm)	0.8 (3.2)	0.8 (3.2)	1.85 (7)	
INLET/ OUTLET	Air motor inlet size	1/4 npt(f) or 1/4 BSPP	1/4 npt(f) or 3/8 BSPP(f)	1/2 npt(f) or 1/2 BSPP(f)	
	Pump inlet size	3/4 npt(f) or M26 x 1.5 BSPP	3/4 npt(f) or M26 x 1.5(f)	1 npt(f) or 1 BSPP(f)	
	Pump outlet size	3/8 npt(f) or 3/8 BSPP	3/8 npt(f) or BSPP(f)	1 npt(f) or 1 BSPP(f)	
	Pump manual	309303	311688	311689	
Fittings		Triton 1:1 150 Series	Triton 3:1 150 Series	Triton 3:1 350 Series	
PUMP CONSTRUCTION	SST	NPT	233501	253705	253708
		BSPP	233777	253704	253707
	Aluminum	NPT	233500		
		BSPP	233776		

Replacement Parts Index

S = Standard • = Optional

Part No	Description	Pump Part No							
		233500	233501	233776	233777	253704	253705	253707	253708
245065	PTFE diaphragm repair kit	S	S	S	S				
245066	Air valve repair kit	S	S	S	S	S	S		
245067	Acetal ball and SST seat kit	S	S	S	S	S	S		
245068	Diaphragm shaft kit	S	S	S	S				
246011	PTFE diaphragm repair kit					S	S		
15J647	Bearing Kit					S	S		
233541	Shaft Repair Kit					S	S		
243152	PTFE diaphragm repair kit							S	S
243153	Air valve repair kitS	S						S	S
243154	Acetal balls and stainless seats kit (qty: 4 ea)							S	S
243155	Pneumatic cylinder seal repair kit							S	S
243156	Fluid manifold seal kit							S	S
261696	Bearing Kit							S	S

Triton

Low Pressure Pneumatic Pumps

Accessories

- 245874 Floor Stand, 4-legged**
Includes stand frame and hardware for mounting the Triton 3D 350 pump on the floor. Does not include pump.
- 197426 Triton 1:1 Wall Bracket**
Used to mount a TRITON pump to a wall.
- 245875 Wall Bracket**
Includes wall bracket and hardware for mounting the Triton 3D 350 pump on wall. Does not include pump.
- 246495 Wall Bracket**
Includes wall bracket and hardware for mounting the Triton 3D 150 pump on wall. Does not include pump.
- 208920 Siphon Kit, Aluminum**
Use to siphon fluid from a 5 gal (18.9 l) pail. Includes nylon suction hose 170706, 1" ID, 4 ft (1.2 m) long, 3/4 npt(f) swivel.
- 238909 Grounding Wire and Clamp**
10 gauge, 25 ft (7.6 m) wire
- 224040 Pump Runaway Valve**
Use to prevent pump from running dry and running at high cycle rates. Maximum working pressure: 120 psi (0.8 MPa, 8.4 bar). Inlet and outlet: 3/4 npt(f).
- 261695 Diaphragm Assembly**
Use to assist in the installation of diaphragm
- 245082 Suction Hose, Aluminum**
Used to siphon material out of a 5 gal (18.9 l) pail. Includes 4 ft (1.2 m) hose, aluminum siphon tube, and inlet strainer. Hose outlet fitting: 3/8 npsm(f).
- 245083 Suction Hose, Stainless**
Used to siphon material out of a 5 gal (18.9 l) pail. Includes 4 ft (1.2 m) hose, stainless siphon tube and inlet strainer. Hose outlet fitting: 3/8 JIC(f) (9/16-18 unf).
- 245084 Suction Hose Kit, Aluminum, 55 Gallon Drum**
Used to siphon material out of a 55 gal (200 l) drum. Includes 6 ft (1.8 m) hose, aluminum siphon tube, acetal bung adapter and inlet strainer. Hose outlet fitting: 3/8 npsm(f).
- 245085 Suction Hose Kit, Stainless, 55 Gallon Drum**
Used to siphon material out of a 55 gal (200 l) drum. Includes 6 ft (1.8 m) hose, stainless siphon tube, acetal bung adapter and inlet strainer. Hose outlet fitting: 3/8 JIC(f) (9/16-18 unf).
- 112100 Adapter Fitting, Stainless**
Use with bushing 116350 to connect 245083 and 245085 suction hose kits to Triton 3D 150 fluid inlet. 3/8 JIC(m) (9/16-18 unf) x 3/8 npt(m).
- 116350 Pipe Bushing, Stainless**
Use with adapter fitting 112100 to connect 245083 and 245085 suction hose kits to Triton 3D 150 fluid inlet. 3/4 npt(m) x 3/8 npt(f).
- 238909 Grounding Wire and Clamp**
10 gauge, 25 ft (7.6 m) wire
- 224040 Pump Runaway Valve**
Use to prevent pump from running dry and running at high cycle rates. Maximum working pressure: 120 psi (0.8 MPa, 8.4 bar). Inlet and outlet: 3/4 npt(f).

Imperial®

Electric Centrifugal Pumps

Technical Specifications and Ordering Information

2



How to Order:

Use the following 5-step ordering process:

- 1 Select the number of stages
- 2 Determine the fluid horsepower required
- 3 Select material viscosity and correct your fluid horsepower
- 4 Select the fluid section
- 5 Select the motor

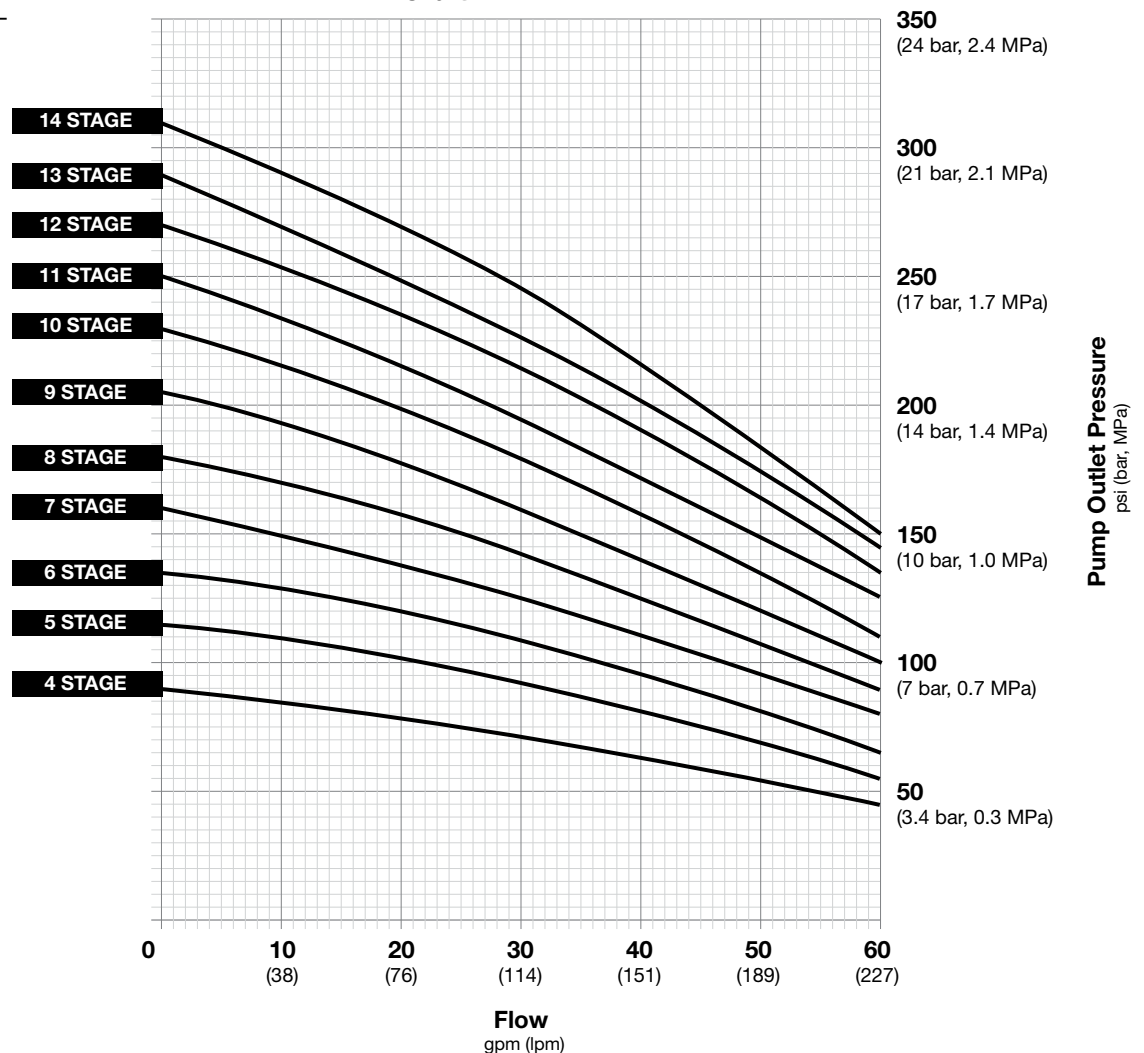
This information is meant as a guide for general pump selection. It is typical to add or remove a stage once a centrifugal pump is installed to supply the desired pressure and flow rate. Factors like shear characteristics, specific gravity along with viscosity of the material pumped play a part in the flow and pressure output of an impeller pump. Make sure that the pump selected has the flexibility to add or remove a stage, and the horsepower necessary to support the addition of a stage, if needed.

Step 1: Select Stages

Using chart 1, select the desired flow and outlet pressure for the pump. Choose the next stage above the intersection point for the correct stage number.

A _____

Chart 1



Imperial

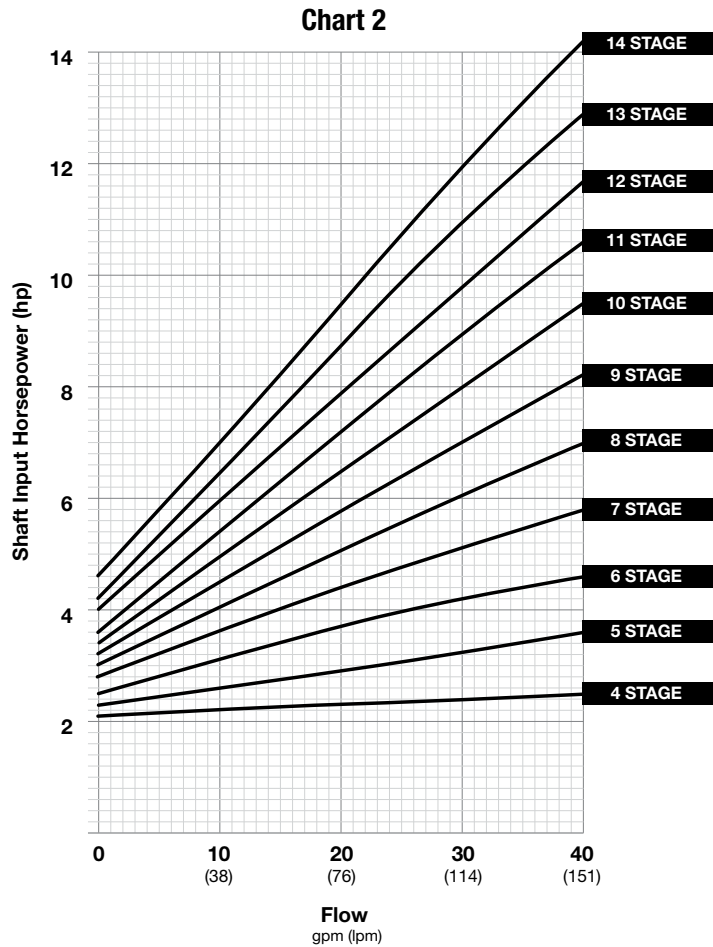
Electric Centrifugal Pumps

Technical Specifications and Ordering Information

Step 2: Determine Fluid Horsepower

Using chart 2, select the desired flow and cross reference with the number of stages (A) to determine the fluid horsepower.

B _____

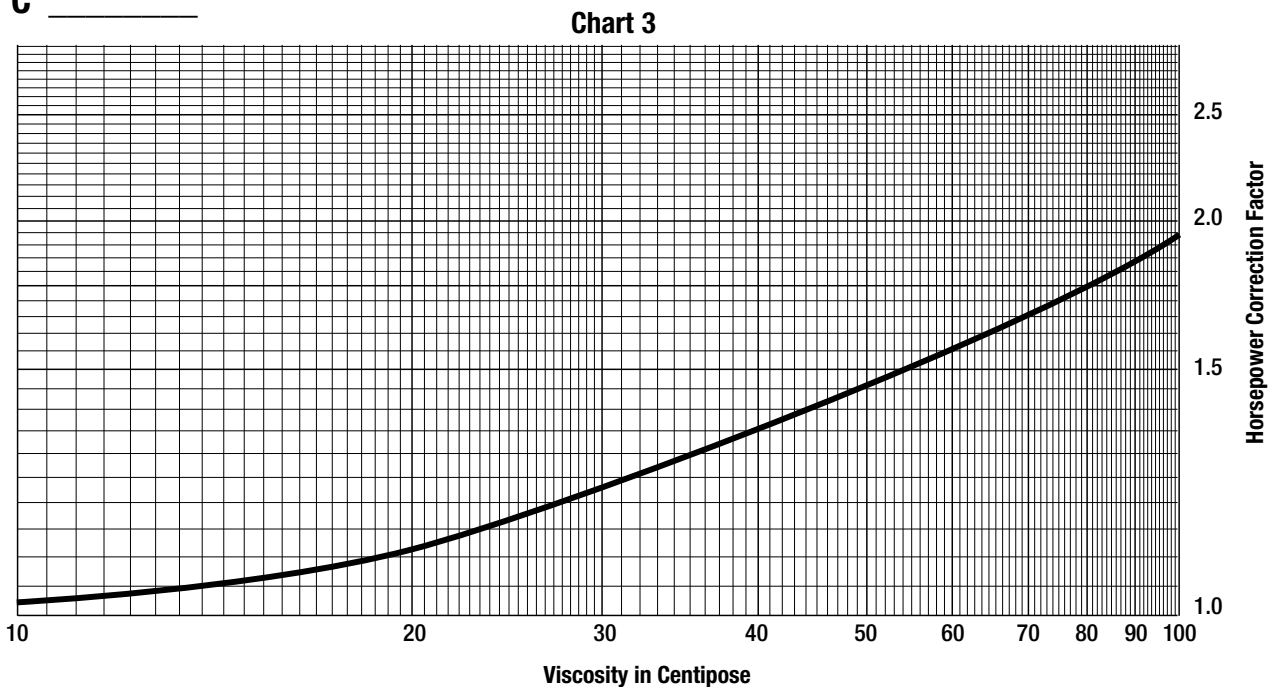


Step 3: Correction Factor

Using chart 3, determine the viscosity of the desired material and take the intersecting line to find your correction factor.

$$HP \text{ (fluid)} = HP \text{ (water)} \times \text{Correction Factor}$$

C _____



Imperial

Electric Centrifugal Pumps

Technical Specifications and Ordering Information

Step 4: Select the fluid section

Use the number of stages (A), select the model number.

Number of Stages	Corrosion Resistant Standard size for 60 in (152 cm) max. tank height	Waterborne Standard size for 60 in (152 cm) max. tank height
	Model No.	Model No.
6	223806	223706
7	223807	223707
8	223808	223708
9	223809	223709
10	223810	223710
11	223811	223711
12	223812	223712
13	223813	223713
14	223814	223714
15	None	237015

Step 5: Select motor

Select the correct motor size based on the horsepower requirement as well as the proper frame size, voltage and rating (B x C)

Electric U-Frame Motors

Motor	H.P.	Voltage	Rating
521470	3	230/460	Standard
521469	5	230/460	Standard
521468	7.5	230/460	Standard
521467	10	230/460	Standard
521466	15	230/460	Standard
521888	20	230/460	Standard
521455	7.5	600	Standard
51A649	3	CSA 575	Standard
51A650	5	CSA 575	Standard
51A651	7.5	CSA 575	Standard
51A652	10	CSA 575	Standard
51A653	15	CSA 575	Standard
51A654	20	CSA 575	Standard
516821	3	230/460	Premium
512732	5	230/460	Premium
516824	7.5	230/460	Premium
516825	10	230/460	Premium
516731	15	230/460	Premium
516827	20	230/460	Premium
Motor	H.P.	Voltage	Rating
51B297	3	CSA 575	Premium
51B298	5	CSA 575	Premium
51B299	7.5	CSA 575	Premium
51B300	10	CSA 575	Premium
51B301	15	CSA 575	Premium
51B302	20	CSA 575	Premium
114937	10	575	Inverter Duty
51B157	15	230/460	Inverter Duty
51B778	10	230/460	Inverter Duty
116228	10	380	Inverter Duty
51B673	7.5	380V/50Hz	Standard
51B674	10	380V/50Hz	Standard
51B675	15	380V/50Hz	Standard
51B676	20	380V/50Hz	Standard
51B677	7.5	380V/50Hz	Premium
51B678	10	380V/50Hz	Premium
51B679	15	380V/50Hz	Premium
51B680	20	380V/50Hz	Premium

Imperial

Electric Centrifugal Pumps

Technical Specifications and Ordering Information

Step 5: Select motor (continued)

Select the correct motor size based on the horsepower requirement as well as the proper frame size, voltage and rating (B x C)

Electric T-Frame Motors

Motor	H.P.	Voltage	Rating
521441	3	230/460	Standard
521429	5	230/460	Standard
51B296	7.5	230/460	Standard
516826	10	230/460	Standard
521456	15	230/460	Standard
521454	20	230/460	Standard
516822	3	230/460	Premium
516823	5	230/460	Premium
516774	7.5	230/460	Premium
516775	10	230/460	Premium
516776	15	230/460	Premium
516828	20	230/460	Premium
51B681	7.5	380V/50Hz	Premium
51B682	10	380V/50Hz	Premium
51B683	15	380V/50Hz	Premium
51B684	20	380V/50Hz	Premium

