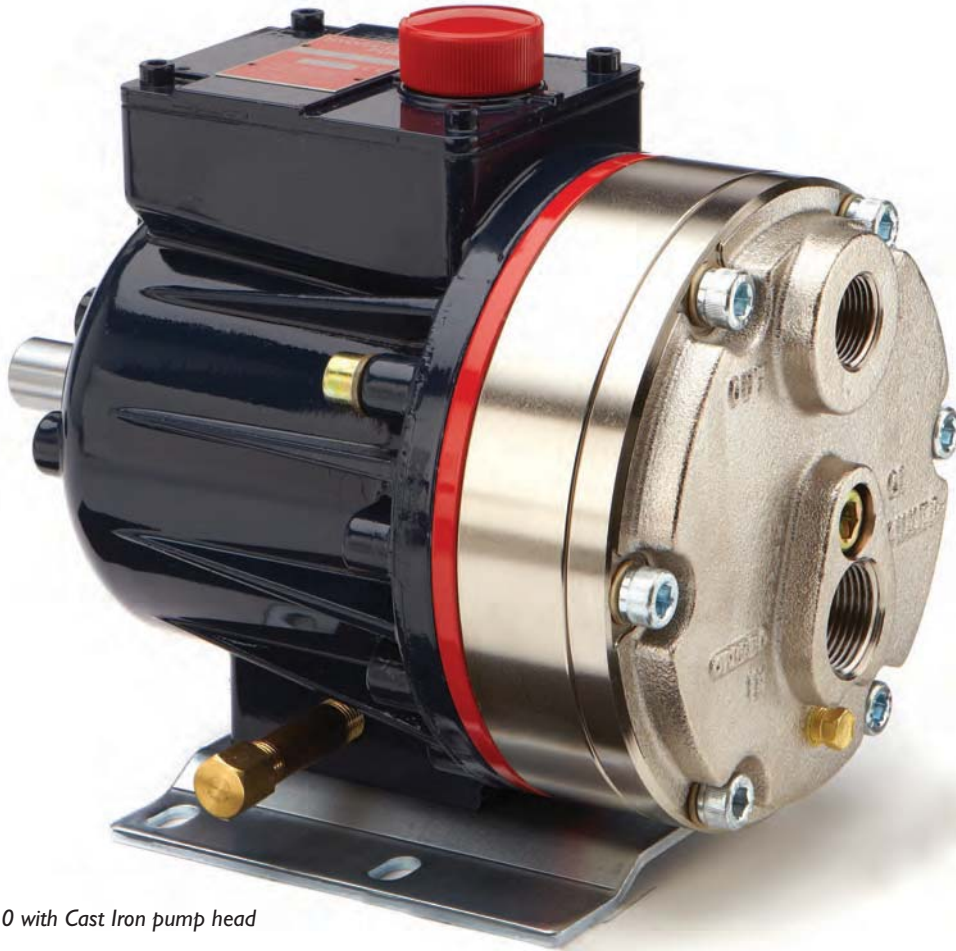


D10 Series

Maximum Flow Rate: 8.8 gpm (33.4 l/min)

Maximum Pressure: 1500 psi (103 bar) for Metallic Pump Heads
350 psi (24 bar) for Non-metallic Pump Heads



D10 with Cast Iron pump head



D10 with Brass pump head



D10 with Polypropylene pump head



D10 with Stainless Steel pump head and ANSI flanges

D10 Series Performance

Capacities

Flow

Model	Max. Input rpm	Max. Flow	
		@ 1000 psi (69 bar) gpm	l/min
D10-X	1450	8.1	30.6
D10-E	1750	8.8	33.4
D10-S	1750	6.0	22.7
D10-I	1750	4.0	15.0
@ 1500 psi (103 bar)			
D10-X	790	4.26	15.1
D10-E	790	3.87	14.7

Performance and specification ratings apply to D10 configurations unless specifically noted otherwise.

Pressure

Maximum Inlet Pressure

250 psi (17 bar)

Maximum Discharge Pressure

Metallic Pump Heads:

D10-X, E, S, I to 1000 psi (69 bar)

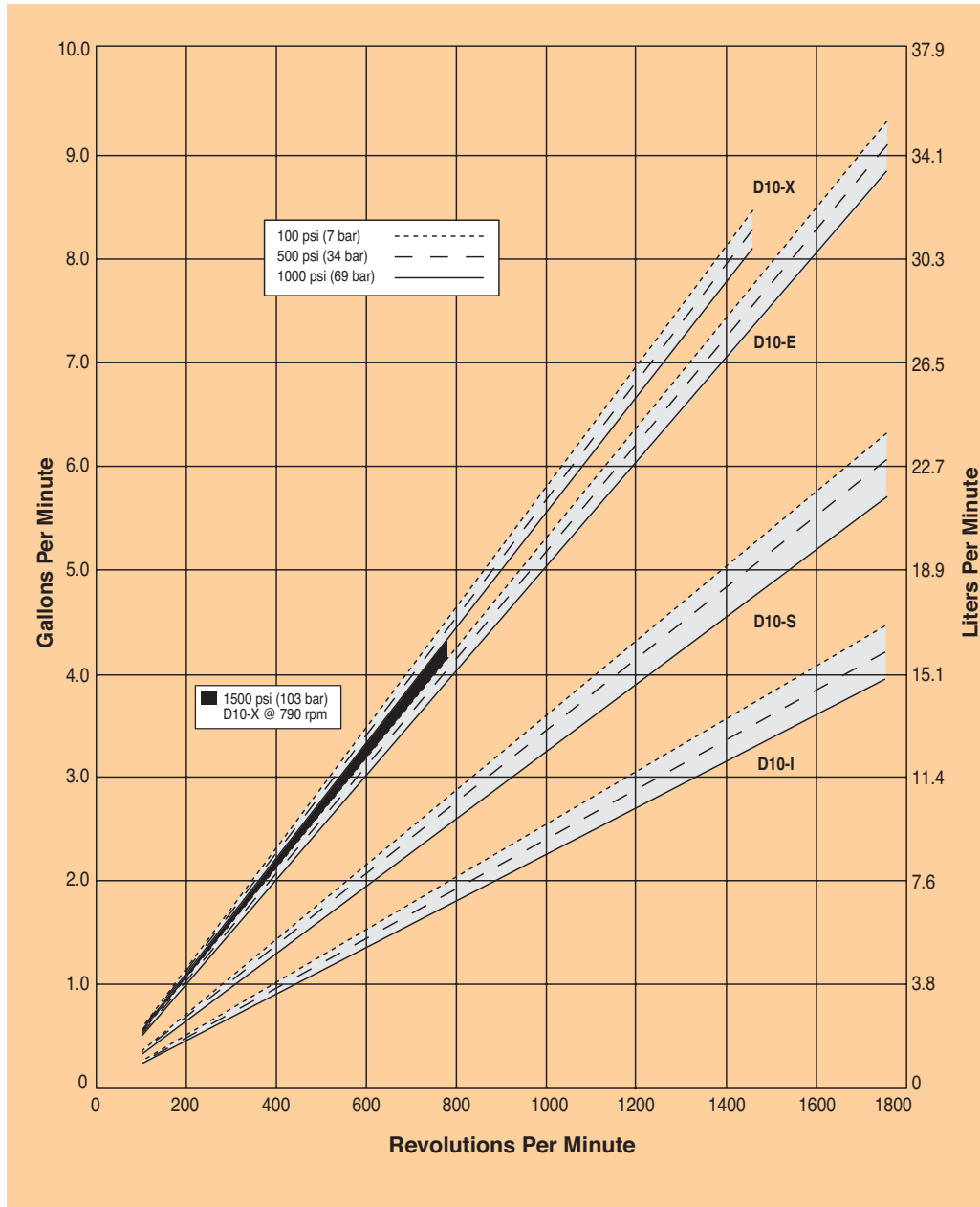
D10-X to 1500 psi (103 bar) @ 790 rpm max.

Non-metallic Pump Heads:

250 psi (17 bar) Polypropylene

350 psi (24 bar) PVDF

Maximum Flow at Designated Pressure



D10 Series Specifications

Flow Capacities @1000 psi (69 bar)

Model	rpm	gpm	l/min
D10-X	1450	8.10	30.6
D10-E	1750	8.83	33.4
D10-S	1750	6.00	22.7
D10-I	1750	3.96	15.0

Delivery @1500 psi (103 bar)

Model	gal/rev	liters/rev
D10-X	0.0054	0.0205
D10-E	0.0049	0.0186

Delivery @1000 psi (69 bar)

Model	gal/rev	liters/rev
D10-X	0.0056	0.0211
D10-E	0.0051	0.0191
D10-S	0.0034	0.0130
D10-I	0.0023	0.0086

Maximum Discharge Pressure

Metallic Heads:	1000 psi (69 bar) @1450 rpm (D10-X)
	1000 psi (69 bar) @1750 rpm (D10-E, S, I)
	1500 psi (103 bar) @790 rpm (D10-X)
Non-metallic Heads:	250 psi (17 bar) Polypropylene
	350 psi (24 bar) PVDF

Maximum Inlet Pressure 250 psi (17 bar)

Maximum Operating Temperature

Metallic Heads:	250 °F (121 °C) - Consult factory for correct component selection for temperatures from 160 °F (71 °C) to 250 °F (121 °C).
Non-metallic Heads:	140 °F (60 °C)

Maximum Solids Size 500 microns

Inlet Port	1 inch NPT
	150lb ANSI RF flange

Discharge Port	3/4 inch NPT
	600lb ANSI RF flange

Shaft Diameter	7/8 inch (22.2 mm)
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Shaft Rotation	Reverse (bi-directional)
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Bearings	Tapered roller bearings
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Oil Capacity	1.1 US quarts (1.05 liters) - See pages 104 and 105 for oil selection and specification.
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Weight

Metallic Heads:	48 lbs. (21.8 kg)
Non-metallic Heads:	35 lbs. (15.9 kg)

Calculating Required Power

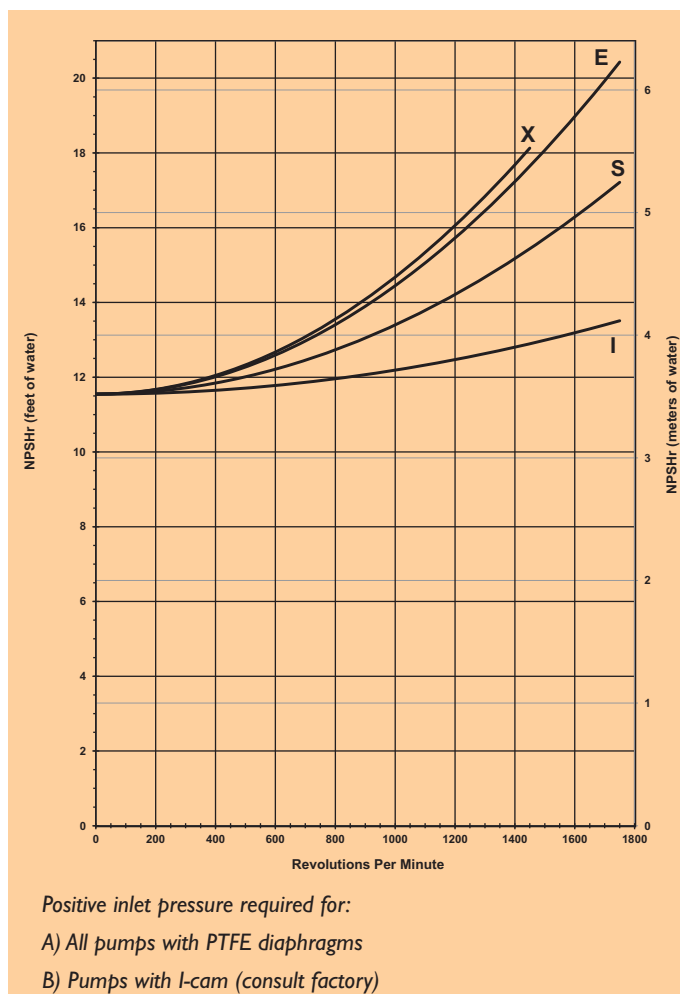
$$\frac{15 \times \text{rpm}}{63,000} + \frac{\text{gpm} \times \text{psi}}{1,460} = \text{electric motor hp}$$

$$\frac{15 \times \text{rpm}}{84,428} + \frac{\text{l/min} \times \text{bar}}{511} = \text{electric motor kW}$$

See page 168 for calculating pulley size.

When using a variable frequency controller (VFD) calculate the hp or kW at minimum and maximum pump speed to ensure the correct hp or kW motor is selected. Note that motor manufacturers typically de-rate the service factor to 1.0 when operating with a VFD.

Net Positive Suction Head (NPSHr)



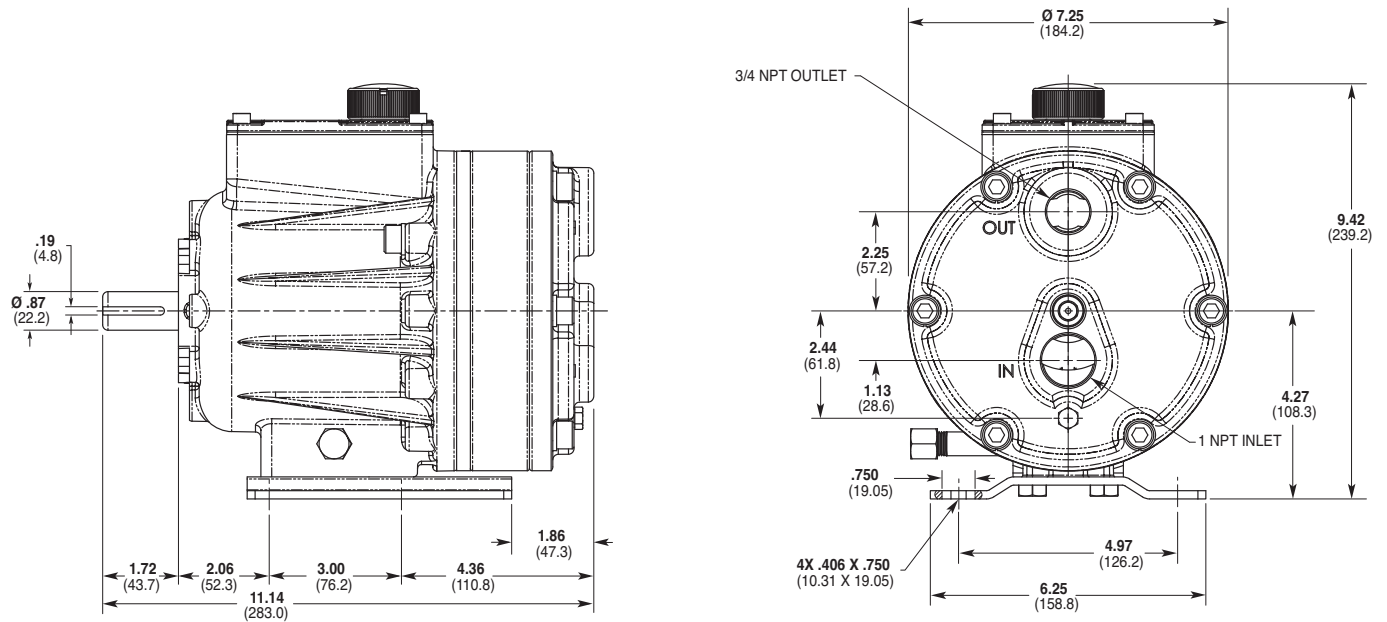
Self-priming:

Each Hydra-Cell pump has different lift capability depending on model size, cam angle, speed, and fluid characteristics. To ensure that your specific lift characteristics are met, refer to the inlet calculations regarding friction, and acceleration head losses in your Hydra-Cell Installation & Service Manual. Compare those calculations to the NPSHr curves above.

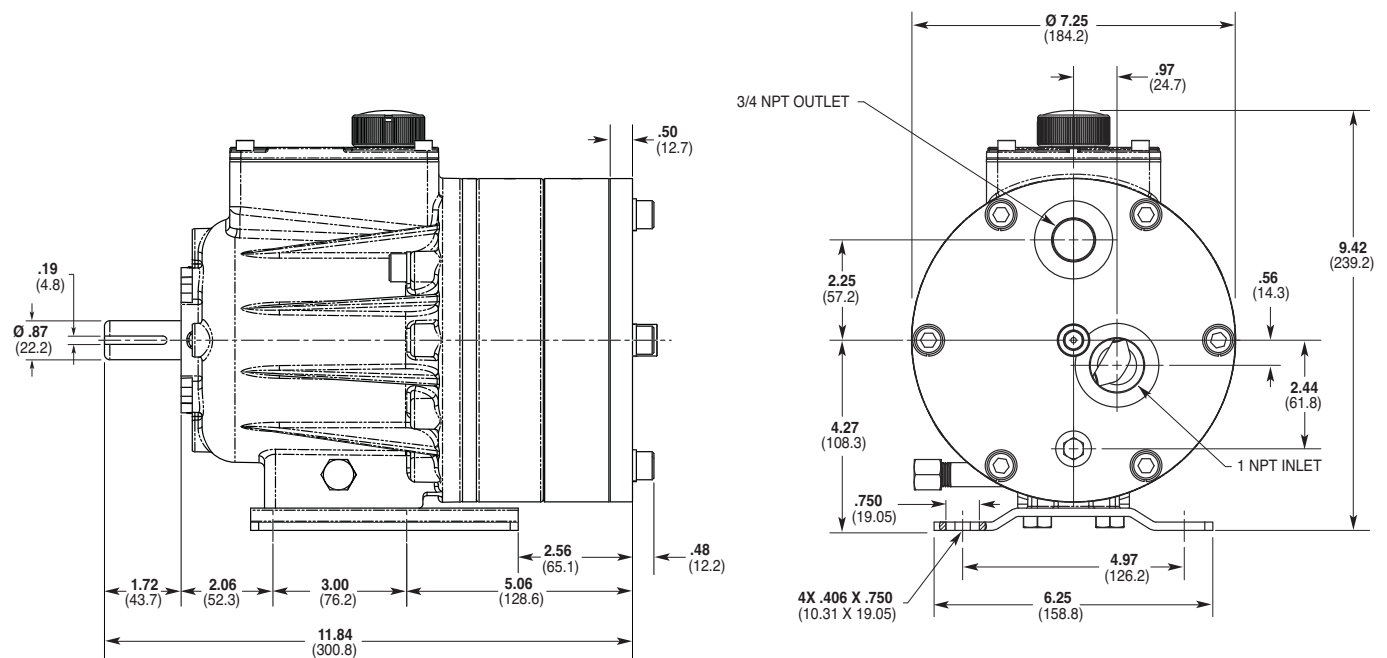
For technical assistance in pump selection, see *Frequently Asked Questions* on page 166, *Design Considerations* on page 167, and *Installation Guidelines* on pages 168-169.

D10 Series Representative Drawings

D10 Models with Metallic Pump Head Inches (mm)



D10 Models with Non-metallic Pump Head Inches (mm)



Note: Contact factory for additional drawings of specific models and configurations.

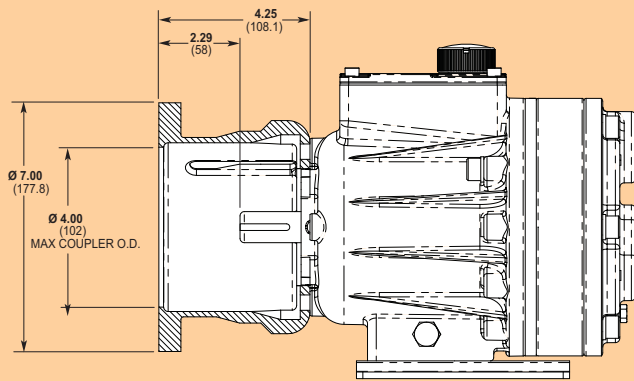
D10 Series **Adapters/Valves/Skids**

Pump/Motor Adapter Inches (mm)

Part Number: A04-001-I200

For: 56C, I43TC and I45TC frame motors.

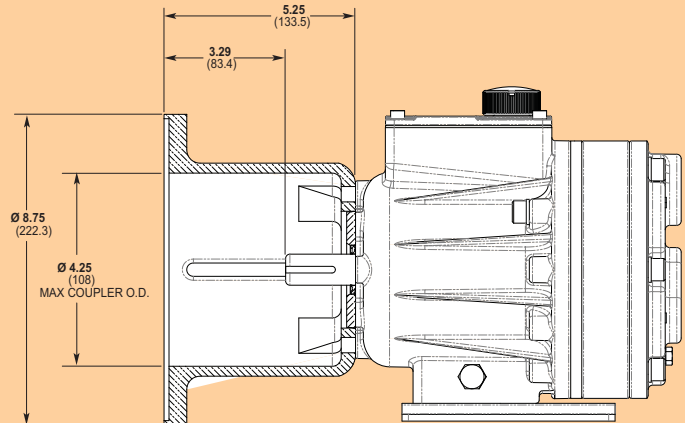
Metric adapter available - consult factory.



Part Number: A04-002-I200

For: I82TC, I84TC, 2I3TC and 2I5TC frame motors.

Metric adapter available - consult factory.



Valve Selection

A seal-less C62 Pressure Regulating Valve is recommended for Hydra-Cell D10 pumping systems, especially for high-pressure requirements or when handling dirty fluids.

See page 88 for more information.



A C22 Pressure Regulating Valve provides a capable, lower-cost alternative to C62 valves for Hydra-Cell D10 pumping systems.

See page 84 for more information.



Skid-mounted D10 with 3hp, 3-phase motor.

D10 Series **How to Order**

Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12
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A complete D10 Series Model Number contains 12 digits including 9 customer-specified design and materials options, for example: D10XKBTHFECA.

Digit	Order Code	Description
1-3	D10	Pump Configuration Shaft-driven (NPT Ports or ANSI Flanges)* *Pump/motor adapters ordered separately. See previous page.
4	X E S I	Hydraulic End Cam Max 8.1 gpm (30.6 l/min) @ 1450 rpm Max 8.8 gpm (33.4 l/min) @ 1750 rpm Max 6.0 gpm (22.7 l/min) @ 1750 rpm Max 4.0 gpm (15.0 l/min) @ 1750 rpm
5	K R	Pump Head Version Kel-Cell NPT Ports Kel-Cell Reduced Pocket
6	B C G M N P R S T	Pump Head Material Brass Cast Iron (Nickel-plated) Duplex Alloy 2205 (with Hastelloy C followers & follower screws) PVDF (with Hastelloy C followers & follower screws) Polypropylene (with Hastelloy C followers & follower screws) Polypropylene (with 316L Stainless Steel followers & follower screws) 316L Stainless Steel ANSI flange class 150 x 600 316L Stainless Steel Hastelloy CW12MW
7	A E G J P T	Diaphragm & O-ring Material Aflas diaphragm / PTFE o-ring EPDM (requires EPDM-compatible oil - Digit 12 oil code C) FKM PTFE (available with E and S cams only; 1200 rpm max.) Neoprene Buna-N
8	C D H S T	Valve Seat Material Ceramic Tungsten Carbide 17-4 Stainless Steel 316L Stainless Steel Hastelloy C

Digit	Order Code	Description
9	C D F N T	Valve Material Ceramic Tungsten Carbide 17-4 Stainless Steel Nitronic 50 Hastelloy C
10	E H T	Valve Springs Elgiloy 17-7 Stainless Steel Hastelloy C
11	C H M P T Y	Valve Spring Retainers Celcon 17-7 Stainless Steel PVDF Polypropylene Hastelloy C Nylon (Zytel)
12	A B C E G H	Hydra-Oil 10W30 standard-duty oil 40-wt for continuous-duty oil (use with 316L SST or Hastelloy CW12MW pump head - standard) EPDM-compatible oil Food-contact oil 5W30 cold-temp severe-duty synthetic oil 15W50 high-temp severe-duty synthetic oil

D10 Pump Housing is standard as Cast Aluminum.
Upgrade to Ductile Iron available.

Note: For motors, bases, couplings and other pump accessories, refer to the Accessories section beginning on page 92.

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