

VECTOR

PERISTALTIC PUMPS

Designed to Handle Difficult Fluids



For Processing Applications with Difficult Fluids



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Due to continuous improvement practices, specifications and other data in this catalog are subject to change.

Vector Pumps Handle Aggressive or Corrosive Fluids, High-viscosity Fluids, and High-purity Solutions

Available in 10 models to handle a wide range of processing requirements, Vector peristaltic pumps are ideal for pumping challenging fluids without altering their composition. They move high-viscosity (up to 20,000 cps) pasty, pulpy, thick, abrasive, and corrosive solutions as well as fluids containing solids up to 3-1/2 inches (90 mm) in size.

Self-priming Vector pumps compress and relax a hose to pump fluid. Unlike many other peristaltic pumps, it features a roller mechanism instead of a rigid shoe to push the fluid through the hose. This helps ensure a longer service life with less downtime and maintenance.



Vector pumps isolate the fluid being pumped into a single, durable hose so they can handle tough fluids.

Design Features

- Dry pump cavity
- Self-priming operation
- Runs dry without damage
- Complete isolation of fluid pumped
- Heavy-duty roller bearings
- Variety of pump configurations, flows, and pressure ratings
- No seals, cups or packing to leak or wear
- Reversible flow
- Low maintenance

Typical Substances Handled

- Acids
- Bentonite Slurries
- Carbon Slurry
- Ceramic Slip
- Cosmetics & Creams
- Dyes & Inks
- Eggs
- Ferric Chloride
- Flavorings
- Iron Oxide Pigments
- Jams & Preserves
- Lime Slurries
- Paint
- Sewage
- Sodium Hydroxide
- Shampoos
- Yogurt

Typical Industries Served

- Ceramics
- Chemical Processing
- Cosmetics
- Food & Dairy Processing
- Marine
- Mining
- Paints & Coatings
- Petrochemicals
- Pharmaceuticals
- Pulp & Paper
- Water & Wastewater Treatment

Vector Peristaltic Pumps Capabilities Overview

Flow Capacities and Pressure Ratings

Model	Flow (gpm)	Discharge Pressure (psig)
2002	0.3	30
2003	0.94	30
2004	2.52	45
2005	5.9	50
3005	9.2	200
2006	14.1	60
2007	40.5	60
2008	50	100
2009	120	100
2010	211	116



Maximum Allowable Solids Guidelines

Pump Model	Hose I.D. (mm)	Non-Compressible Solids		Sharp Solids	Compressible Solids (mm)
		Size of solids, when percentage of solids is >50% (mm)	Size of solids, when percentage is <10% (mm)		
2002	9	1.35	2.25	AVOID	8.1
2003	13	1.95	3.25	AVOID	11.7
2004	17	2.55	4.25	AVOID	15.3
2005	25	3.75	6.25	AVOID	22.5
3005	25	3.75	6.25	AVOID	22.5
2006	30	4.50	7.50	AVOID	27.0
2007	45	6.75	11.25	AVOID	40.5
2008	53	7.95	13.25	AVOID	47.7
2009	75	11.25	18.75	AVOID	67.5
2010	100	15.00	25.00	AVOID	90.0



Vector pumps are ideal for several applications in production of industrial and commercial paints, coatings, inks, and dyes.

Vector Pump Performance Advantages

Pressure Ratings

Up to 200 psig discharge pressure

Flow Capacities

Up to 211 gpm

Contamination-free Pumping

Fluid is contained in the hose and only contacts the hose

Fluid/Hose Compatibility

Fiber-braided or extruded hoses can handle abrasive or corrosive fluids as well as food products or pharmaceutical materials

Low-shear/Non-emulsifying

Transfers food and pharmaceutical solutions without crushing or foaming the fluids

Self-priming

Requires no priming chamber; suction lifts to 24 feet depending on model

Dry Running

Externally lubricated hose enables the pumps to run dry without stalling or damaging the hose or roller assembly; avoids pump failure and reducing pump life

Dependable Seal-less Design

No seals or packing that can leak, clog, wear out, or need replacement

Handles Abrasive Solids

Can pump abrasive fine particles and solids up to 3-1/2 inches (90 mm)

Easy to Clean

Reversible rotary movement provides for easy-to-clean system piping; flushing may be eliminated

Easy to Service

Simple replacement of hoses saves time; clear plastic cover allows the pump to be checked easily during operation for any problems

Vacuum Capability

A Vector pump can be used as a vacuum pump and for cleaning up spills; evacuates gases as well as fluids

Metering Capability

A Vector pump is also a positive displacement pump for metering; output flow is directly proportional to pump speed



Expensive chemicals and compounds, including adhesive resins, polymers, and latex are protected by Vector pumps during processing.



Industries Served and Fluids Pumped

Vector peristaltic pumps can handle the most difficult process fluids to serve a wide range of commercial, institutional, industrial, and municipal markets. Examples of many successful applications are listed in this section - but these are not limitations. If you have a difficult fluid to process not listed, contact Wanner Engineering for application assistance.



Building & Construction

Adhesives, dyes, glues, grout, iron oxide pigments, paints, plaster, pottery, tile

Ceramic & Glass

Clay slips, dyes, enamels, glazes, grinding water, grout, quartz paste, silicon

Chemical Processing

Abrasive mixes, acids, adhesive resins, caustic soda, detergent paste, latex, pigments, polyester mixes, polymers

Distilleries

Alcohol, spices, spirits

Electrical

Polyester slurries for insulating wire

Food & Beverage Processing

Bentonite and carbon slurries, butter, cake dough, cake frosting, caramel, chocolate, cream, egg yolks with whites, fats, flavorings, fruit juices, gelatins, ice cream, jams and preserves, milk, mustard, potato waste, syrups, tomato sauce, water and salt mixtures, yeast solution, yogurt

Marine

Sewage, wastewater, solid waste

Meat Processing

Acids, animal and waste blood, hair and bone mixtures

Medical, Pharmaceutical & Cosmetics

Face creams, latex, lotions, plasma, protein solutions, shampoo, vaccines, Vaseline

Mining, Tunneling & Quarrying

Coal, copper and platinum slurries

Photographic

Acids, diluents, thinners

Pulp & Paper

Abrasive, fibrous fluids, aluminum sulfate, boiler wastewater, caustic soda (lye), cold seal, dyes, hydrochloric acid, inks, pre-paint coatings, sulfuric acid

Tanneries

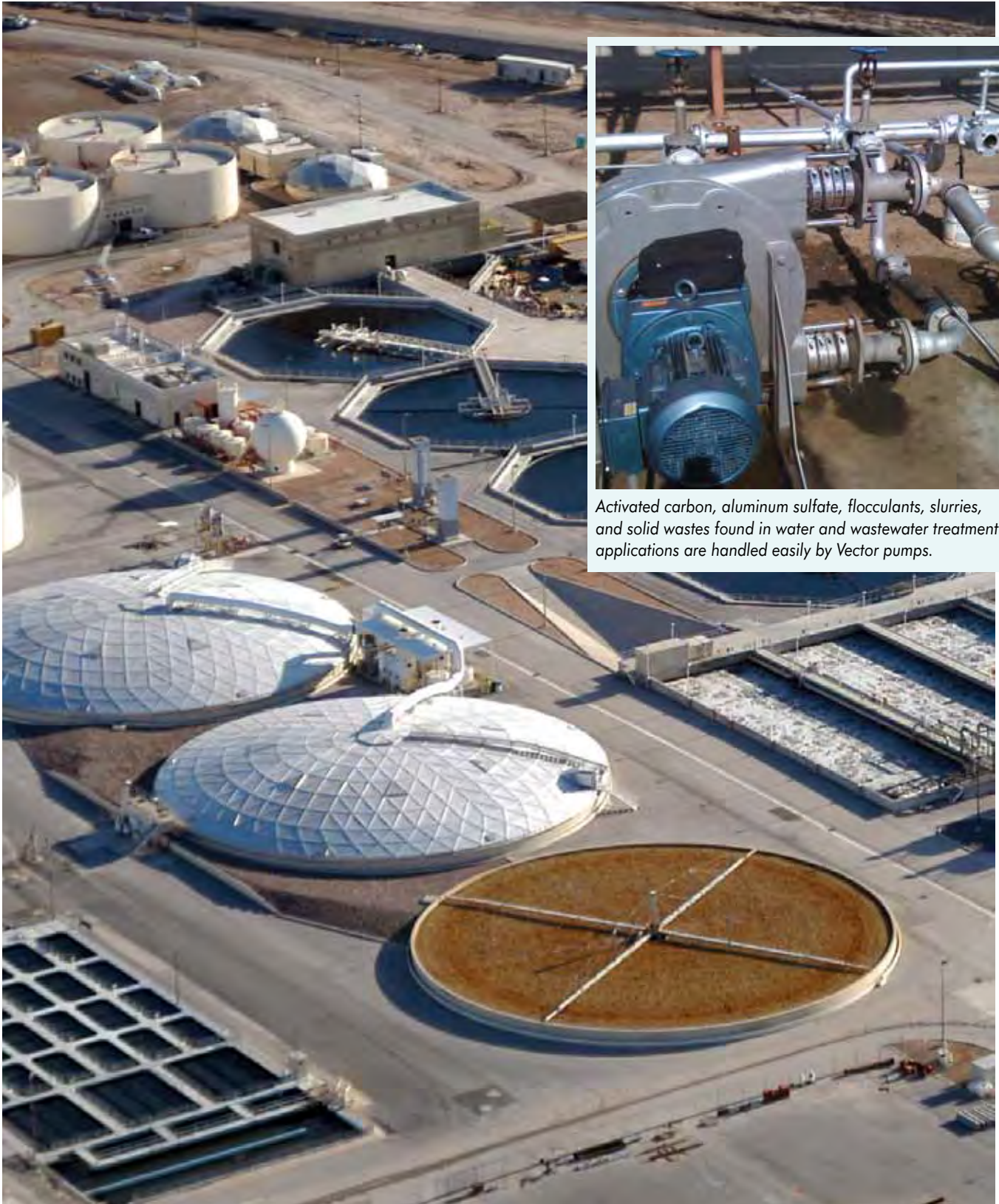
Acids, dyes, ferrous sulfate, waste fluids with solids

Textile Manufacturing

Acids, adhesives, bleach, dyes, sizing

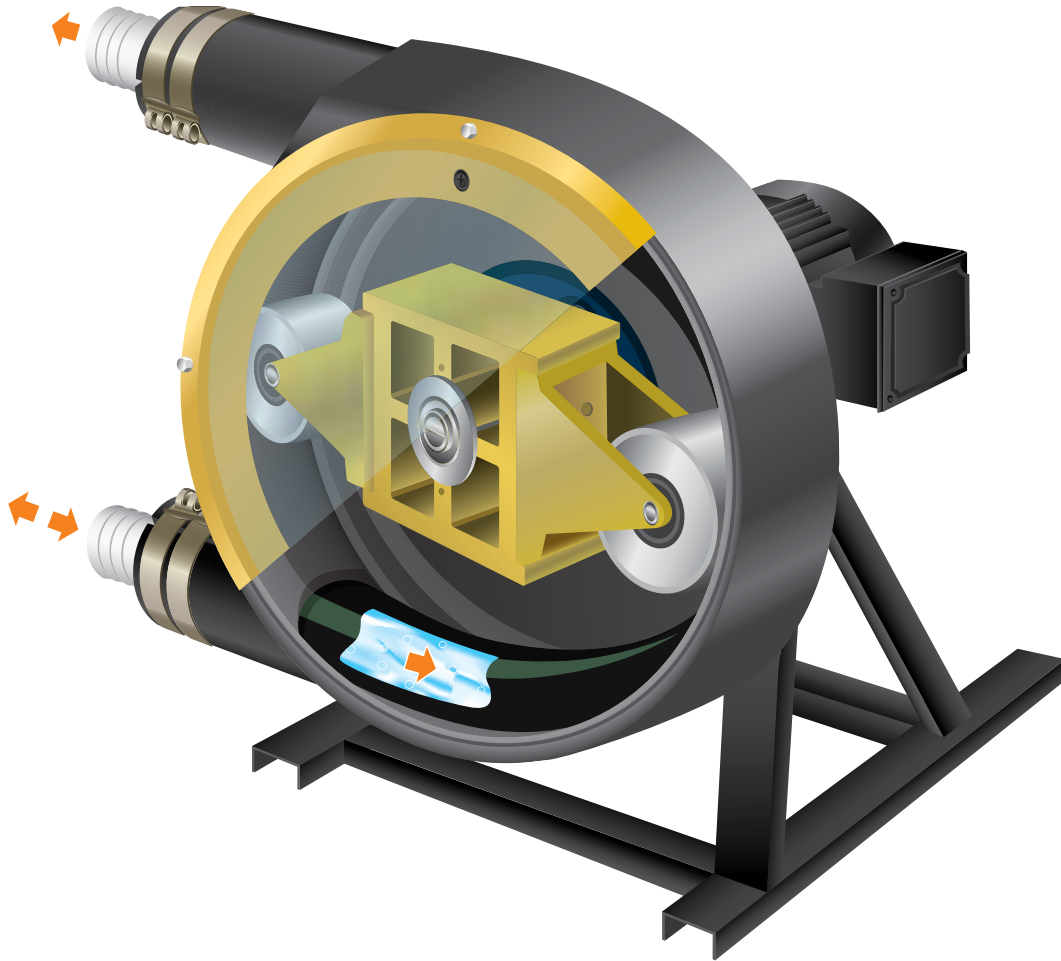
Water & Wastewater Treatment

Acids, activated carbon, aluminum sulfate, caustic soda (lye), ferrous chloride, flocculants, foam inhibitors, lime slurries, solid waste



Activated carbon, aluminum sulfate, flocculants, slurries, and solid wastes found in water and wastewater treatment applications are handled easily by Vector pumps.

Vector Peristaltic Pump Operating Principle



Peristaltic pumps work by compressing and relaxing a hose positioned between a rotating device and a circular pump housing. Most peristaltic pumps use rigid shoes that rub and torque the hose. Vector uses rotating rollers that provide the same “push” with far less hose wear.

The peristaltic method employed in Vector pumps can create 100% compression at all times. As a result, there is virtually no slipping. Metering is highly accurate. Up to 24 feet of suction lift is produced.

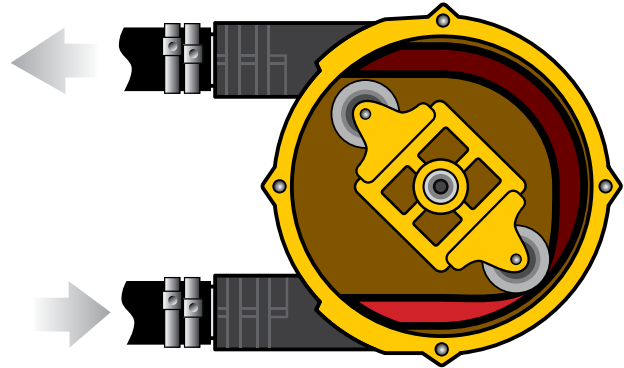
Despite this powerful pumping action, Vector pumps will not cause frothing or delicate emulsions to break up. Since fluids travel through a single hose, they never come into contact with moving valves, springs, or seals. This makes Vector pumps ideal for handling abrasive, shear-sensitive, or corrosive fluids. Dyes, thick fluids, and solids up to 3-1/2 inches (90 mm) are also readily pumped.

Superior Roller Design

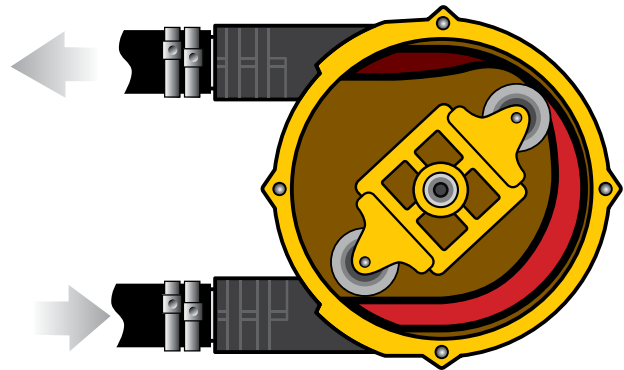


Vector uses an evolutionary roller mechanism instead of a rigid shoe to push fluids through its hose. This ensures longer working life with less downtime for maintenance.

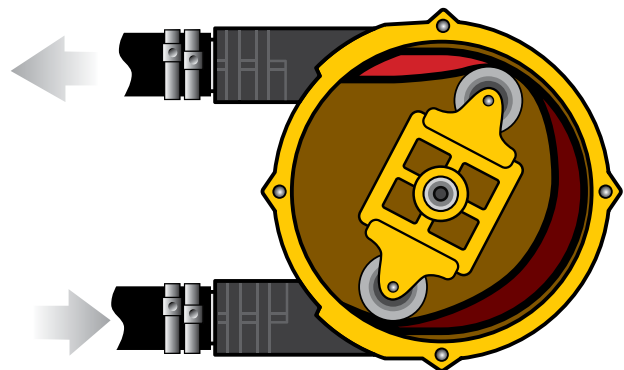
The rollers generate less friction than shoes, extending hose life and reducing downtime.



Fluid positioned ahead of the rollers gets pushed forward as the rollers rotate inside of the case.



Meanwhile, the portion of the hose just behind the rollers rebounds to create a vacuum.



The vacuum draws fluid into the pumping hose, which is then pushed forward by the rollers.

Vector Pumps Hose Data

Construction

Extruded:

500-750 hours Typical Life at 30 rpm

Preferred when:

- Pumping foods and pharmaceuticals
- Clean fluids
- Lower pressures required

Fiber Braided:

1500-2000 hours Typical Life at 30 rpm

Preferred when:

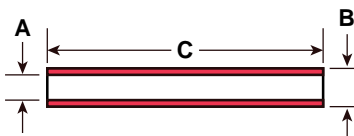
- Pumping fluids with abrasives
- The pump is required to create a strong vacuum
- High pressures are required

Operating Duty

Intermittent: Higher pressures and higher pump speed

Continuous: Low pressures and lower speed

Dimensions



(mm)	A	B	C
2002	9	16	330
2003	13	22	390
2004	17	31	590
2005	25	43	860
2006	30	55	1150
2007	45	75	1455
2008	53	88	1850
2009	75	120	2400
2010	100	144	3250
3005	25	44	850

Hose Identification

Extruded

Code

Hypalon	HE	Black color, shiny smooth surface
Neoprene	PE	Flat black color, rough surface, rubber smell
Varprene	VE	Cream, smooth surface
Silicone	SE	Rust color, smooth surface
Pharmed®	FE	Cream color, Pharmed® name on hose

Fiber Braided

Hypalon	HF	Black color, yellow or blue stripe, double braided
EPDM	EF	Black color, white stripe, double braided
Natural Rubber	NF	Black color, green stripe, double braided (standard duty)
Natural Rubber	MF	Black color, no stripes, thick double braids (heavy duty)
Nitrile Rubber	BF	Black color with white inner hose.
Nitrile Rubber– Oil Rated	OF	Black color with HBRF-HY-K stamped on hose.

Material	Operating Temperatures	Industry Approvals
EPDM	32° to 185° F (0° to 85°C)	
Hypalon	32° to 180° F (0° to 82.2°C)	
Neoprene	50° to 130° F (10° to 54.4°C)	
Silicone	14° to 185° F (-10° to 85°C)	
Varprene	14° to 185° F (-10° to 85°C)	Meets FDA Criteria
Natural Rubber ¹	14° to 185° F (-10° to 85°C)	Meets FDA Criteria ¹
Nitrile Rubber	23° to 160° F (-5° to 71.1°C)	
Pharmed®	32° to 180° F (0° to 82.2°C)	Meets USP Class VI, FDA, and NSF Criteria

¹ Natural rubber heavy duty hose meets FDA criteria.

® Pharmed Reg. Saint-Gobain Performance Plastics

ATTENTION!

When operating within 15°F (9.4°C) of maximum hose temperature, do not exceed 20 rpm pump speed. In addition, metal inspection plate is required vs. clear plastic material.

Vector Pumps Selection Guidelines

1. Collect application information

Fluid: _____

Discharge Press: _____ psig

Suction Condition:

Lift: _____ feet
 or Vacuum: _____ inches of Hg
 or Flooded: _____ feet of fluid above pump
 or Pressurized: _____ psig

Flow or Flow Range: _____ gpm

Temperature (°F): Min: _____ Max: _____ Normal: _____

Solids?, describe: _____

Solid Size: _____

Solid Length: _____

Solids %: _____

Viscosity at Temp: _____

Vapor Pressure at Temp: _____

Specific Gravity: _____

Duty Cycle (hrs/day): _____

Motor Enclosure: _____

Hertz: 50 _____ 60 _____

Volts: _____

Phase: 1 _____ 3 _____

Motor eff: Std _____ High _____ Inverter Duty _____

Variable Frequency Drive: Yes _____ No _____

If yes, what environment will controller be mounted:

Inside another panel _____ Dry, fairly dust free _____

Dusty area _____ Wet area _____

Wash down area _____

Hazardous area _____ If yes, class and group _____

If Yes, input voltage: 120 _____ 230 _____ 460 _____

2. Determine the maximum roller speed

Duty Cycle (hours/day) of operation

- <8 hours/day: the pump can be run out of the gray shaded areas on the pump specification curves.
- 8-12 hours/day: do not operate out of the gray shaded areas on the pump specification curves.
- >12 hours/day, 25-32 rpm is the maximum recommended speed.

Viscosity of the fluid

- <200 cps: no speed correction needed
- 200-1000 cps: max. speed 40 rpm
- 1,000-5000 cps: max. speed 30 rpm; use flooded/pressurized suction
- 5,000-10,000 cps: max. speed 20 rpm; use flooded/pressurized suction
- 10,000-15,000 cps: max. speed 10 rpm; use flooded/pressurized suction

Note: With viscosities over 200 cps it is very important to oversize the suction line 1-1/2 to 2 times the pump connector size and to keep suction lines as short as possible.

Temperature of the fluid: If the fluid temperature pumped is within 15° F (9.4°C) of the maximum temperature rating of the hose, contact factory and select a pump with a maximum speed of 20 rpm.

3. Pump Selection

- Select pump that can deliver the required flow based on the maximum roller speed and discharge pressure required by the application.

Note: It may be required to select a larger pump if solids are larger than the maximum size the pump can handle.

4. Hose Selection

- Hose selection based on chemical compatibility and temperature.
- For suction vacuum over 4.5" Hg, always use fiber braided hoses (extruded hoses may collapse)
- In general, fiber-braided hoses will last longer and withstand greater discharge pressures than extruded hoses.
- Maximum recommended motor speeds with extruded hoses 40 rpm.

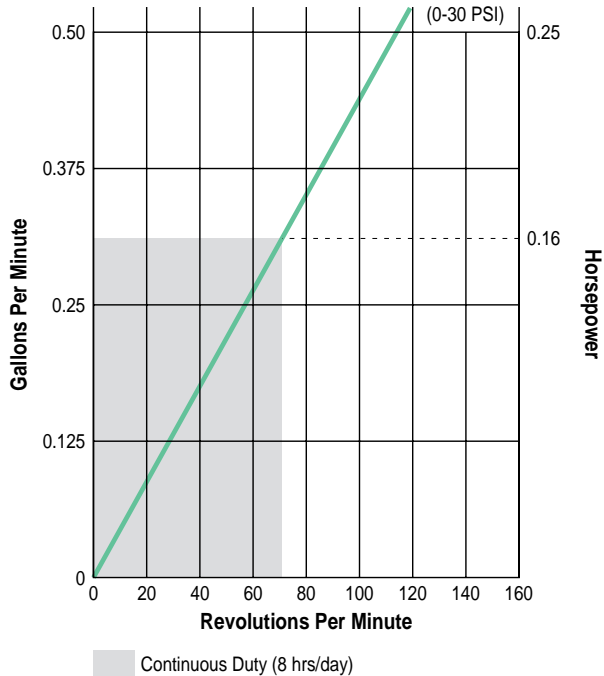
Note: Maximum viscosity for Nitrile hose is 3000 cps.
 (The inner white hose will separate from the outer black hose.)

5. Connector Type and Material Selection

6. Drive Selection

MODEL 2002 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	15,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	1/4 inch (6.3 mm) max.

Specifications

Discharge Pressure:	30 psig (2 bar) max.
Suction Lift:	7 ft (2.1 m)
Suction Pressure:	15 psig (1 bar) max.
Horsepower*:	1/4 max.
Hose Size:	9 x 16 x 330 mm
Displacement:	0.0044 gal/rev
Weight (pump only):	6.5 lbs (3 kg)
Weight (with drive):	15.2 lbs (7 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.



Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
Rotor: Aluminum Alloy
Rollers: Plastic/Alloy

Wetted Parts

Hose:
EXTRUDED – Neoprene, Hypalon, Varpren, PharMed®
BRAIDED – Natural Rubber, EPDM

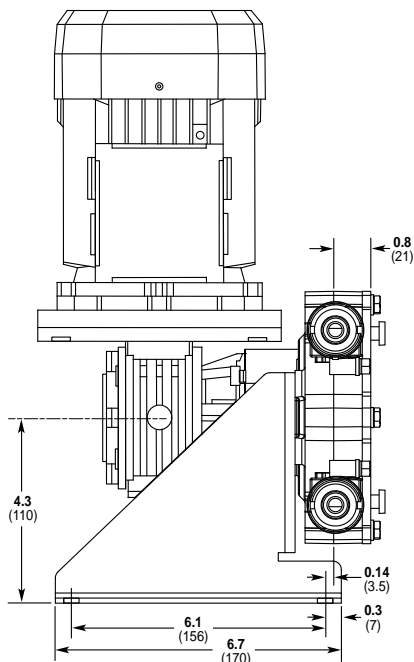
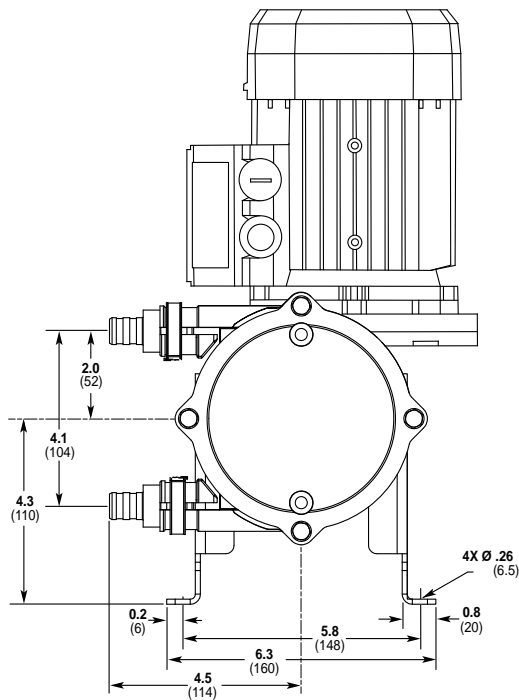
Inlet/Outlet Connections:

PTFE, Brass or Stainless Steel Hose Barb, Brass NPT, and
Stainless Steel Sanitary Tri-clamp

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2002 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

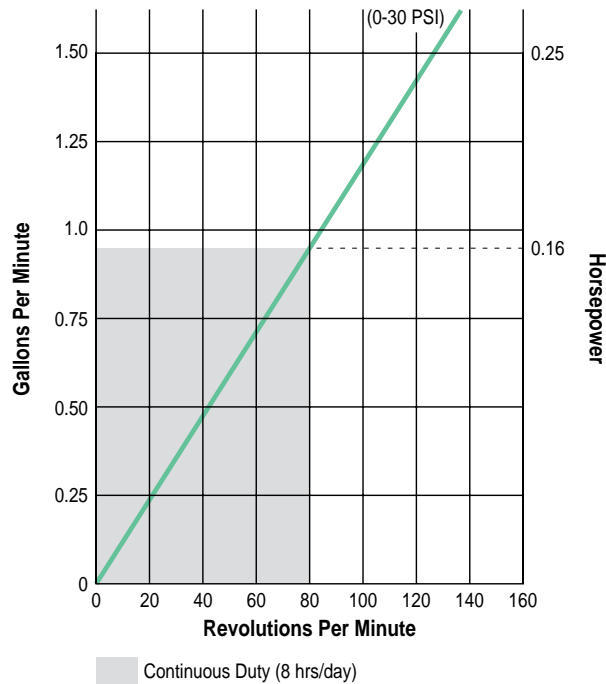
1	2	3	4	5	6	7	8	9	10
2	0	0	2						

Order Digit	Order Code	Description			
1-4	2002	Pump Designation Model 2002 Shaft Drive Pump			
5-6		Hose Material/Type			
	FE	PharMed®, extruded ⁽¹⁾			
	HE	Hypalon, extruded			
	NF	Natural Rubber, fiber-braided			
	EF	EPDM, fiber-braided			
	PE	Neoprene, extruded			
	VE	Varprene, extruded			
7-8		Connector Material/Style			
	AA	PTFE, 1/2" hose barb			
	CC	316 SST, Sanitary, 3/4" tri-clamp			
	FF	Brass, 3/8" hose barb			
	GG	Brass, 3/8" male NPT			
	SS	316 SST, 3/8" hose barb			
	TT	316 SST, 3/8" male NPT			
9-10		Drive			
		Flow GPM			
		Gear Ratio			
		Pump RPM			
		Max Psig			
		1Ø, 1/4 BHP TEFC, 115-230 VAC, 60 Hz			
	B2	0.10	70:1	24	30
	D2	0.12	60:1	28	30
	F2	0.19	40:1	43	30
	H2	0.25	30:1	57	20
	J2	0.30	20:1	86	17
					3Ø, 1/4 BHP TEFC, 230-460 VAC, 60 Hz
					3:1 Constant Torque Speed Range
	L2	0.10	70:1	24	30
	N2	0.12	60:1	28	30
	P2	0.19	40:1	43	30
	R2	0.25	30:1	57	20
	V2	0.30	20:1	86	17
	A	No Drive			

¹ Meets FDA and NSP for food handling. Maximum pressure: 13.5 psig.

MODEL 2003 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	15,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	7/16 inch (11 mm) max.

Specifications

Discharge Pressure:	30 psig (2 bar) max.
Suction Lift:	10 ft. (3 m)
Suction Pressure:	15 psig (1 bar) max.
Horsepower*:	1/4 max.
Hose Size:	13 x 22 x 390 mm
Displacement:	0.011 gal/rev
Weight (pump only):	10 lbs. (4.5 kg)
Weight (with drive):	19.8 lbs. (9 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
Rotor: Aluminum Alloy
Rollers: Plastic/Alloy

Wetted Parts

Hose:
EXTRUDED – Hypalon, Varpene, Silicone, PharMed®
BRAIDED – Natural Rubber, EPDM

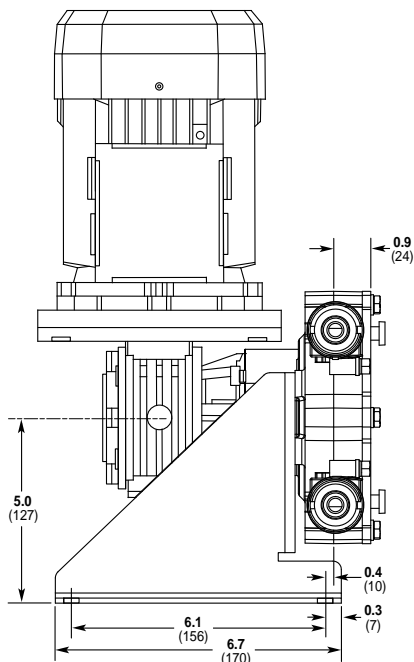
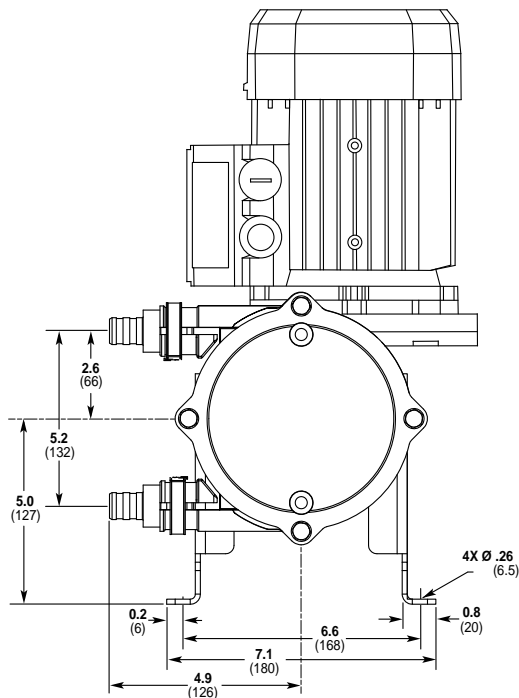
Inlet/Outlet Connections:

PTFE, Brass or Stainless Steel Hose Barb, Brass NPT, and
Stainless Steel Sanitary Tri-clamp

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2003 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

1	2	3	4	5	6	7	8	9	10
2	0	0	3	-		-		-	

Order Digit	Order Code	Description
-------------	------------	-------------

1-4 Pump Designation
2003 Model 2003 Shaft Drive Pump

5-6 Hose Material/Type

- FE** PharMed®, extruded⁽¹⁾
- HE** Hypalon, extruded
- NF** Natural Rubber, fiber-braided
- EF** EPDM, fiber-braided
- SE** Silicone, extruded
- VE** Varprene, extruded

7-8 Connector Material/Style

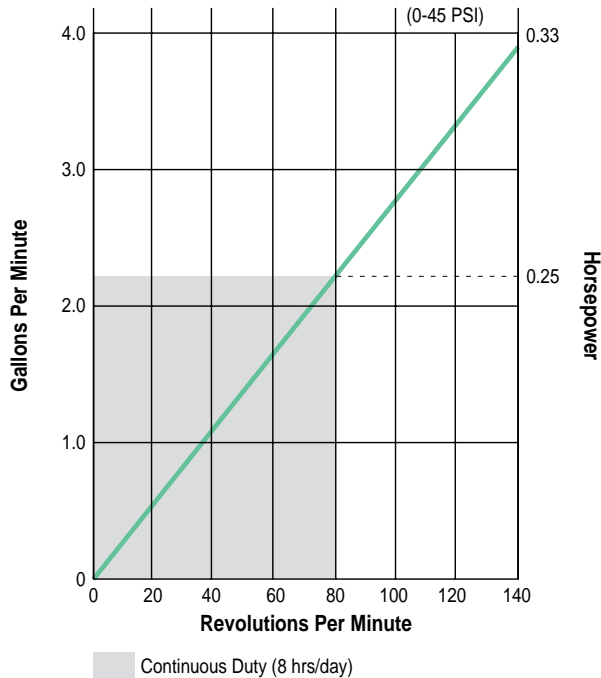
- AA** PTFE, 3/4" hose barb
- CC** 316 SST, Sanitary, 3/4" tri-clamp
- FF** Brass, 1/2" hose barb
- GG** Brass, 1/2" male NPT
- SS** 316 SST, 1/2" hose barb
- TT** 316 SST, 3/4" male NPT

	9-10 Drive			
	Flow GPM	Gear Ratio	Pump RPM	Max Psig
1Ø, 1/4 BHP TEFC, 115-230 VAC, 60 Hz				
B2	0.26	70:1	24	30
D2	0.31	60:1	28	30
F2	0.47	40:1	43	30
H2	0.62	30:1	57	20
J2	0.94	20:1	86	17
3Ø, 1/4 BHP TEFC, 230-460 VAC, 60 Hz				
3:1 Constant Torque Speed Range				
L2	0.26	70:1	24	30
N2	0.31	60:1	28	30
P2	0.47	40:1	43	30
R2	0.62	30:1	57	20
V2	0.94	20:1	86	17
A	No Drive			

¹ Meets FDA and NSP for food handling. Maximum pressure: 13.5 psig.

MODEL 2004 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	15,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	11/16 inch (17.4 mm) max.

Specifications

Discharge Pressure:	45 psig (3 bar) max.
Suction Lift:	14 ft. (4.3 m)
Suction Pressure:	18 psig (1.2 bar) max.
Horsepower*:	1/3 max.
Hose Size:	17 x 31 x 590 mm
Displacement:	0.0286 gal/rev
Weight (pump only):	20 lbs. (9 kg)
Weight (with drive):	34 lbs. (15.5 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
Rotor: Aluminum Alloy
Rollers: Plastic/Alloy

Wetted Parts

Hose:

EXTRUDED – Neoprene, Hypalon, Varprene, Silicone
BRAIDED – Natural Rubber, EPDM, Nitrile Rubber

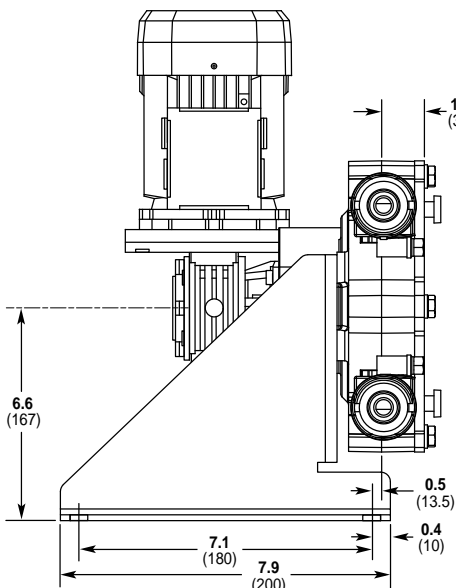
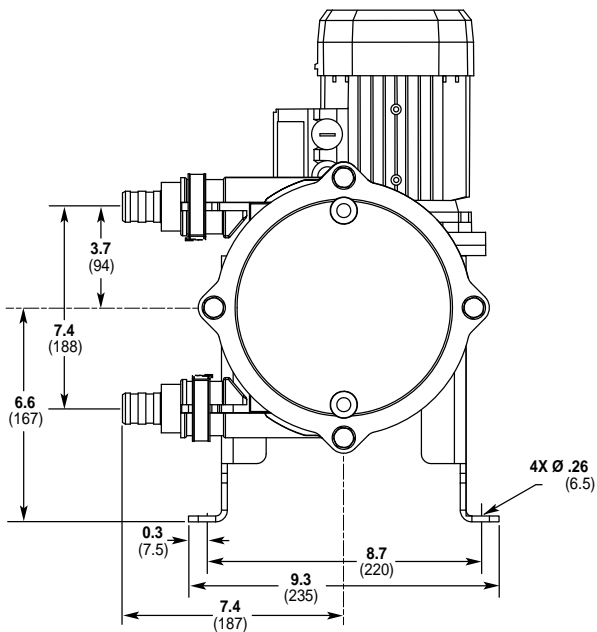
Inlet/Outlet Connections:

PTFE or Stainless Steel Hose Barb, Stainless Steel or Carbon Steel ANSI Flange, Brass or Carbon Steel NPT, and Stainless Steel Sanitary Tri-clamp

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2004 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

1	2	3	4	5	6	7	8	9	10
2	0	0	4	-		-		-	

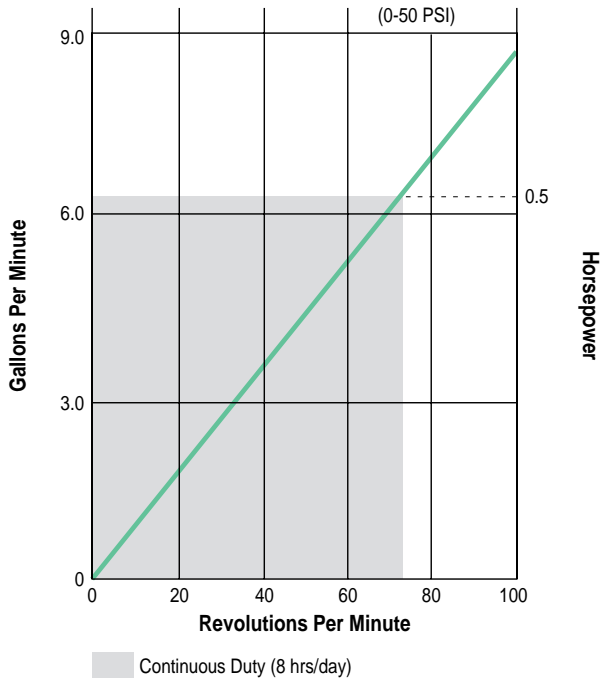
Order Digit	Order Code	Description
1-4	2004	Pump Designation Model 2004 Shaft Drive Pump
5-6		Hose Material/Type
	EF	EPDM, fiber-braided
	HE	Hypalon, extruded
	MF	Natural Rubber, fiber-braided, heavy-duty
	NF	Natural Rubber, fiber-braided
	PE	Neoprene, extruded
	SE	Silicone, extruded
	OF	Nitrile, Oil-rated, fiber-braided, heavy-duty
	VE	Varprene, extruded
7-8		Connector Material/Style
	AA	PTFE, 1" hose barb
	CC	316 SST, Sanitary, 1" tri-clamp
	EE	Carbon Steel, 3/4" male NPT
	FF	Brass, 3/4" hose barb
	GG	Brass, 3/4" male NPT
	SS	316 SST, 3/4" hose barb
	TT	316 SST, 3/4" male NPT
9-10		Drive
		Flow Gear Pump Max
		GPM Ratio RPM Psig
		3Ø, 1/3 BHP TEFC, 230/460 VAC, 60 Hz
		10:1 Constant Torque Speed Range
	B2	0.49 100:1 17.2 30(45) ¹
	D2	0.69 70:1 24 30(45) ¹
	F2	0.86 60:1 30 30(45) ¹
	H2	1.00 46:1 37.5 30(45) ¹
	J2	1.43 35:1 50 25(30) ¹
	L2	1.75 28:1 61 22(25) ¹
	N2	2.52 20:1 88 18(21)
	A	No Drive

¹() Heavy-duty, fiber-braided hose

Note: 1Ø motors also available. Contact Wanner Engineering.

MODEL 2005 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	15,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	1-1/4 inch (31.7 mm) max.

Specifications

Discharge Pressure:	50 psig (3.4 bar) max.
Suction Lift:	16.5 ft. (5 m)
Suction Pressure:	25 psig (1.7 bar) max.
Horsepower*:	3/4 max.
Hose Size:	25 x 43 x 860 mm
Displacement:	0.085 gal/rev (0.032 l/rev)
Weight (pump only):	40 lbs. (18 kg)
Weight (with drive):	83 lbs. (38 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
Rotor: Aluminum Alloy
Rollers: Plastic/Alloy

Wetted Parts

Hose:
EXTRUDED – Neoprene, Varprene
BRAIDED – EPDM, Hypalon, Nitrile Rubber, Natural Rubber
(regular and heavy-duty)

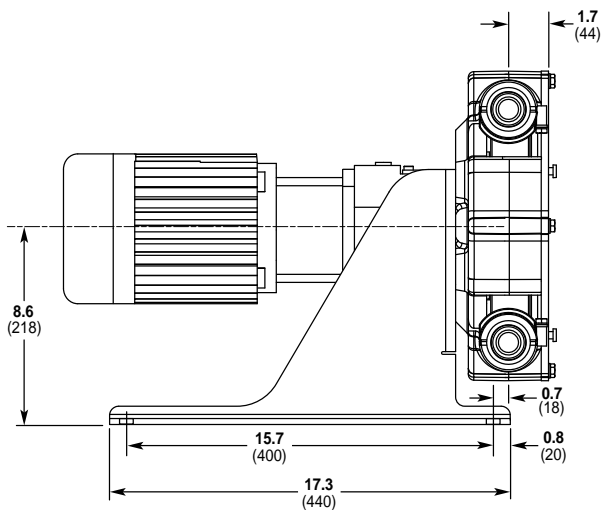
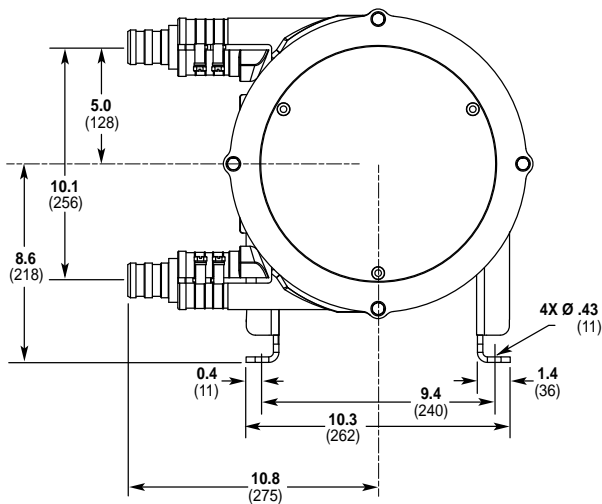
Inlet/Outlet Connections:

PTFE or Stainless Steel Hose Barb, Stainless Steel or Carbon Steel ANSI Flange, PTFE NPT, and Stainless Steel Sanitary Tri-clamp

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2005 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

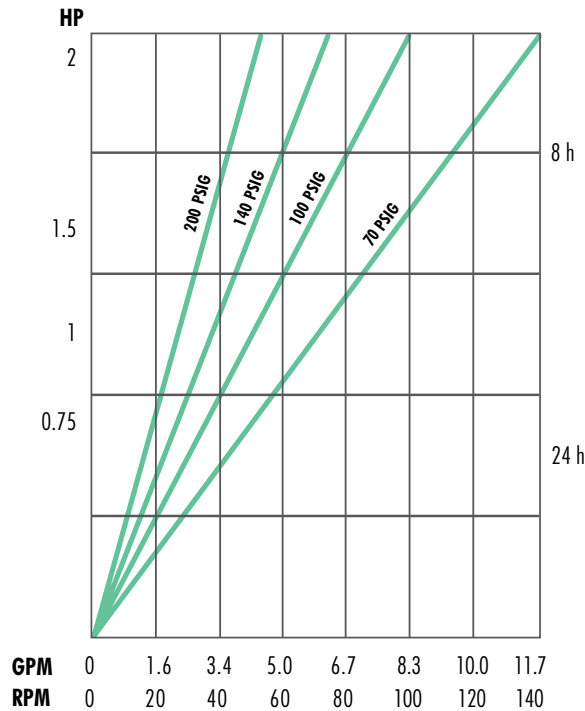
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Order Digit	Order Code	Description
1-4	2005	Pump Designation Model 2005 Shaft Drive Pump
5-6		Hose Material/Type
	EF	EPDM, fiber-braided
	HF	Hypalon, fiber-braided
	MF	Natural Rubber, fiber-braided, heavy-duty
	NF	Natural Rubber, fiber-braided
	OF	Nitrile, Oil-rated, fiber-braided, heavy-duty
	PE	Neoprene, extruded (30 psig max.)
	VE	Varpene, extruded (30 psig max.)
7-8		Connector Material/Style
	AA	PTFE, 1-1/4" hose barb
	BB	316 SST, 1" ANSI flange
	CC	316 SST, Sanitary, 1-1/2" tri-clamp
	EE	Carbon Steel, 1" male NPT
	HH	PTFE, 1" male NPT
	SS	316 SST, 1" hose barb
9-10		Drive
		Flow
		GPM
		Gear Ratio
		Pump RPM
		Max Psig
		3Ø, 1/2 BHP TEFC, 230-460 VAC, 60 Hz
		4:1 Constant Torque Speed Range
	B2	1.7 85:1 20 37(50) ¹
	D2	2.5 56:1 30 37(50) ¹
	F2	3.2 45:1 38 37(45) ¹
	H2	3.8 37:1 46 37(43) ¹
		3Ø, 3/4 BHP TEFC, 230-460 VAC, 60 Hz
		4:1 Constant Torque Speed Range
	J2	5.9 24:1 70 29(32) ¹
	A	No Drive

¹() Heavy-duty, fiber-braided hose

MODEL 3005 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	100,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	4 inch (100 mm) max.

Specifications

Discharge Pressure:	200 psig (13.8 bar) max.
Suction Lift:	22 ft. (6.7 m)
Suction Pressure:	21 psig (1.4 bar) max.
Horsepower:*	2 max.
Hose Size:	25 x 45 x 850 mm
Displacement:	0.079 gal/rev (0.30 l/rev)
Lubrication Fluid:	1.6 quarts max.
Weight (pump only):	77 lbs. (35 kg)
Weight (with drive):	176 lbs. (80 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

- Casing: Aluminum
- Rotor: Cast Iron
- Rollers: Steel
- Roller Holders: Cast Iron
- Frame: Steel

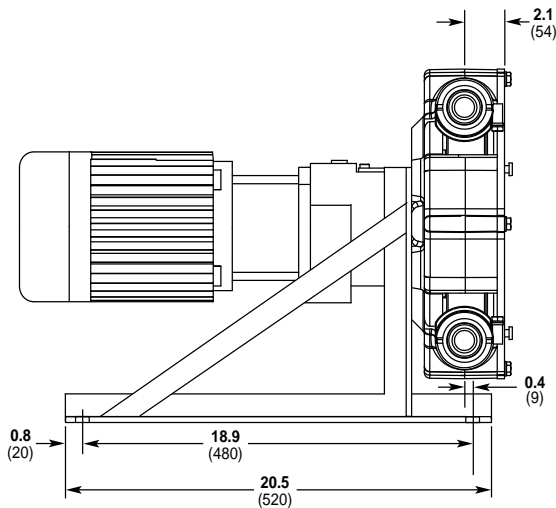
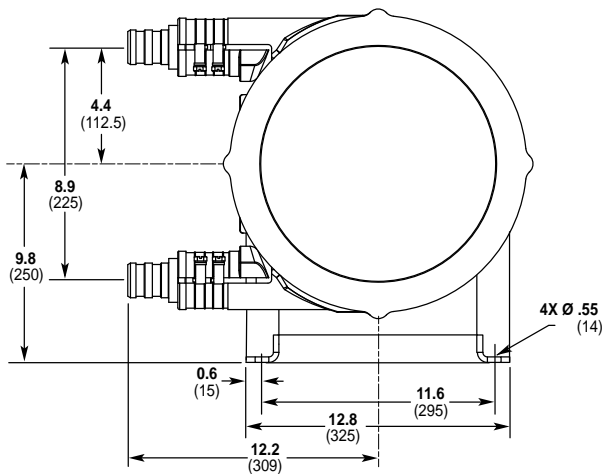
Wetted Parts

- Hose: FIBER BRAIDED – EPDM, Hypalon, Nitrile Rubber, Natural Rubber
- Inlet/Outlet Connections: PVC, Carbon Steel, and Stainless Steel

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 3005 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

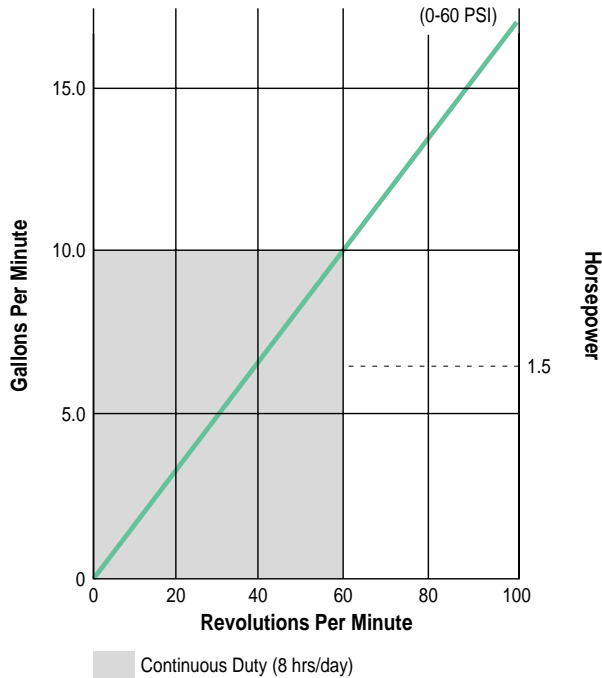
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Order Digit	Order Code	Description
1-4 Pump Designation		
3005		Model 3005 Shaft Drive Pump
5-6 Hose Material/Type		
EF		EPDM, fiber-braided (100 psig max.)
HF		Hypalon, fiber-braided (100 psig max.)
MF		Natural Rubber, fiber-braided, heavy-duty (200 psig max.)
NF		Natural Rubber, fiber-braided (100 psig max.)
OF		Nitrile, Oil-rated, fiber-braided, heavy-duty (200 psig max.)
7-8 Connector Material/Style		
EB		Carbon Steel, 1-1/4" hose barb
EE		Carbon Steel, 1-1/4" male NPT
PV		PVC, 1-1/4" hose barb
TT		316 SST, 1-1/4" MNPT
SS		316 SST, 1-1/4" hose barb
9-10 Drive		
	Flow GPM	Gear Ratio
		Pump RPM
		Max Psig
3Ø, 3/4 BHP TEFC, 230-460 VAC, 60 Hz		
4:1 Constant Torque Speed Range		
B2	1.3	90:1 19 200 ⁽¹⁾
D2	1.7	69:1 25 175 ⁽¹⁾
3Ø, 1 BHP TEFC, 230-460 VAC, 60 Hz		
4:1 Constant Torque Speed Range		
F2	2.8	43:1 39 150 ⁽¹⁾
3Ø, 2 BHP TEFC, 230-460 VAC, 60 Hz		
4:1 Constant Torque Speed Range		
H2	5.7	22:1 78 100 ⁽¹⁾
J2	7.6	17:1 102 75 ⁽¹⁾
L2	9.2	14:1 123 50 ⁽¹⁾
X	No Drive	

⁽¹⁾ () Fluid Viscosity Pressure Range
 0-500 cps 0-75 psig
 500-100,000 cps 0-200 psig

MODEL 2006 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	15,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	1-7/8 inch (47.6 mm) max.

Specifications

Discharge Pressure:	60 psig (4.1 bar) max.
Suction Lift:	24 ft. (7.3 m)
Suction Pressure:	25 psig (1.7 bar) max.
Horsepower*:	2 max.
Hose Size:	30 x 55 x 1150 mm
Displacement:	0.182 gal/rev
Weight (pump only):	95 lbs. (43 kg)
Weight (with drive):	171 lbs. (78 kg)

* Pumps are shaft driven and require a gearbox and motor. See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
 Rotor: Aluminum Alloy
 Rollers: Plastic/Alloy

Wetted Parts

Hose:
 EXTRUDED – Neoprene, Varpene, Silicone
 BRAIDED – EPDM, Hypalon, Nitrile Rubber, Natural Rubber (regular and heavy-duty)

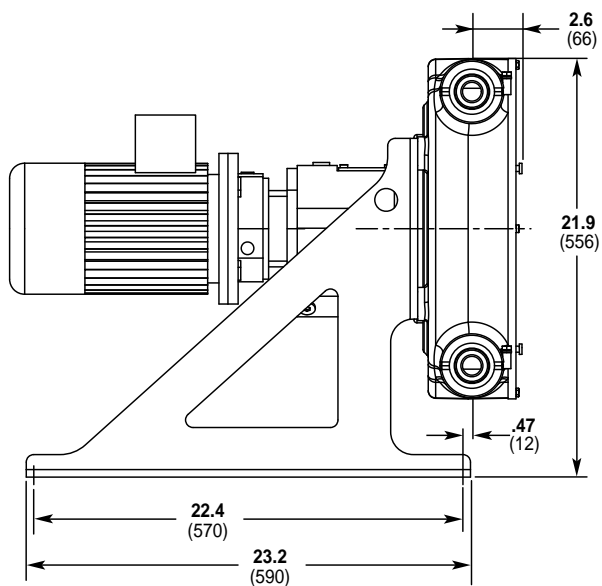
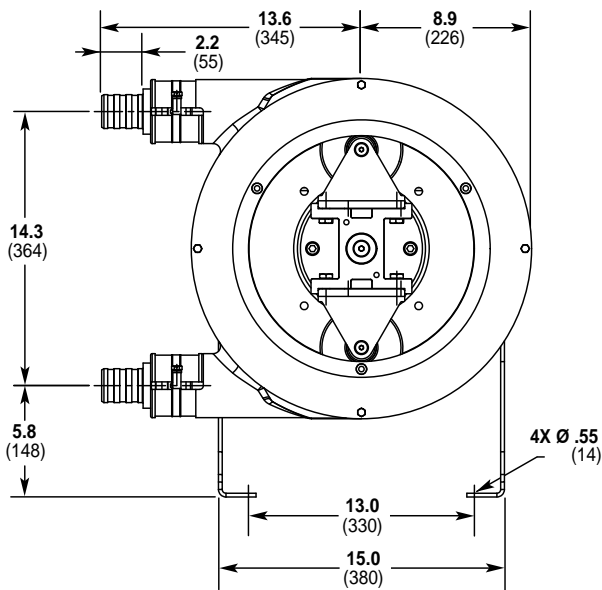
Inlet/Outlet Connections:

PTFE or Stainless Steel Hose Barb, Stainless Steel or Carbon Steel ANSI Flange, PTFE NPT, and Stainless Steel Sanitary Tri-clamp

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2006 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

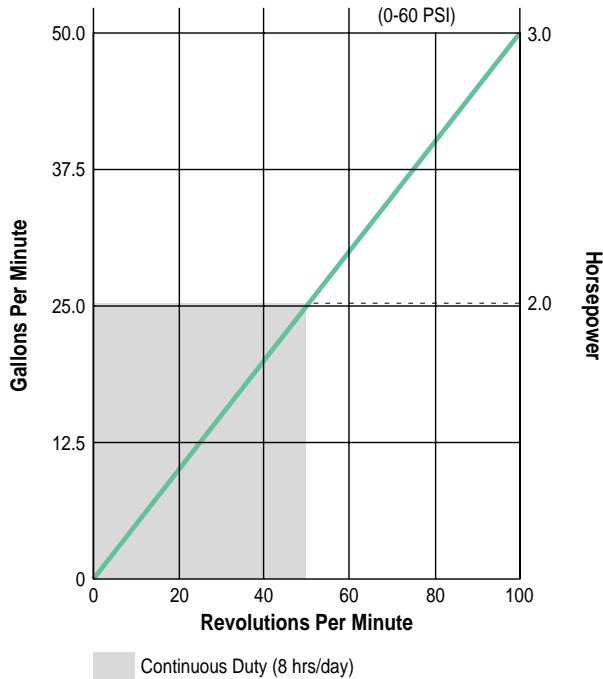
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2	0	0	6						

Order Digit	Order Code	Description		
1-4 Pump Designation				
	2006	Model 2006 Shaft Drive Pump		
5-6 Hose Material/Type				
	EF	EPDM, fiber-braided		
	HF	Hypalon, fiber-braided		
	MF	Natural Rubber, fiber-braided, heavy-duty (200 psig max.)		
	NF	Natural Rubber, fiber-braided		
	PE	Neoprene, extruded (30 psig max.)		
	SE	Silicone, extruded (30 psig max.)		
	OF	Nitrile, Oil-rated, fiber-braided, heavy-duty (200 psig max.)		
	VE	Varprene, extruded (30 psig max.)		
7-8 Connector Material/Style				
	AA	PTFE, 1-1/4" hose barb		
	BB	316 SST, 1-1/4" ANSI flange		
	CC	316 SST, Sanitary, 1-1/2" tri-clamp		
	DD	Carbon Steel, 1-1/4" ANSI flange		
	EE	Carbon Steel, 1-1/2" male NPT		
	HH	PTFE, 1-1/4" male NPT		
	TT	SST 1-1/2" NPT		
	SS	316 SST, 1-1/4" hose barb		
9-10 Drive				
	Flow GPM	Gear Ratio	Pump RPM	Max Psig
3Ø, 1 BHP TEFC, 230-460 VAC, 60 Hz				
4:1 Constant Torque Speed Range				
B2	3.5	90:1	19	45(60) ¹
3Ø, 1-1/2 BHP TEFC, 230-460 VAC, 60 Hz				
4:1 Constant Torque Speed Range				
D2	4.8	65:1	27	45(60) ¹
F2	7.2	43:1	40	45(60) ¹
3Ø, 2 BHP TEFC, 230-460 VAC, 60 Hz				
4:1 Constant Torque Speed Range				
H2	10.3	30:1	57	35(45) ¹
J2	14.1	22:1	78	35(45) ¹
A	No Drive			

¹() Heavy-duty, fiber-braided hose

MODEL 2007 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	15,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	2-3/8 inch (60 mm) max.

Specifications

Discharge Pressure:	60 psig (4.1 bar) max.
Suction Lift:	24 ft. (7.3 m)
Suction Pressure:	25 psig (1.7 bar) max.
Horsepower:*	3 max.
Hose Size:	45 x 75 x 1455 mm
Displacement:	0.51 gal/rev
Weight (pump only):	185 lbs. (84 kg)
Weight (with drive):	275 lbs. (125 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
Rotor: Aluminum Alloy
Rollers: Plastic/Alloy

Wetted Parts

Hose:
EXTRUDED – Varprene
BRAIDED – EPDM, Hypalon, Nitrile Rubber, Natural Rubber
(regular and heavy-duty)

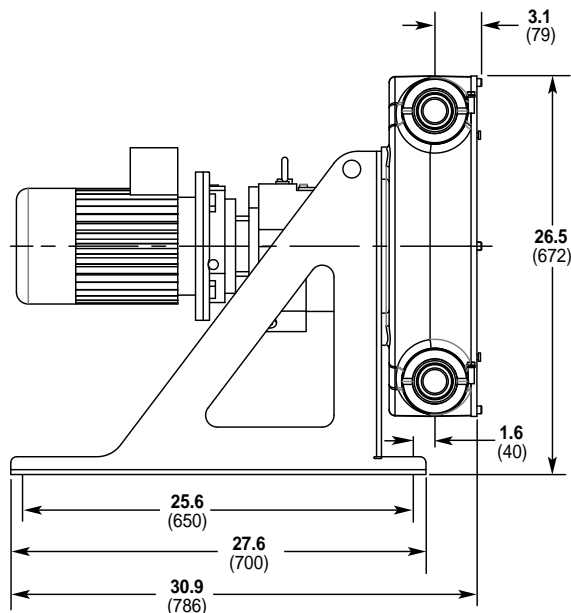
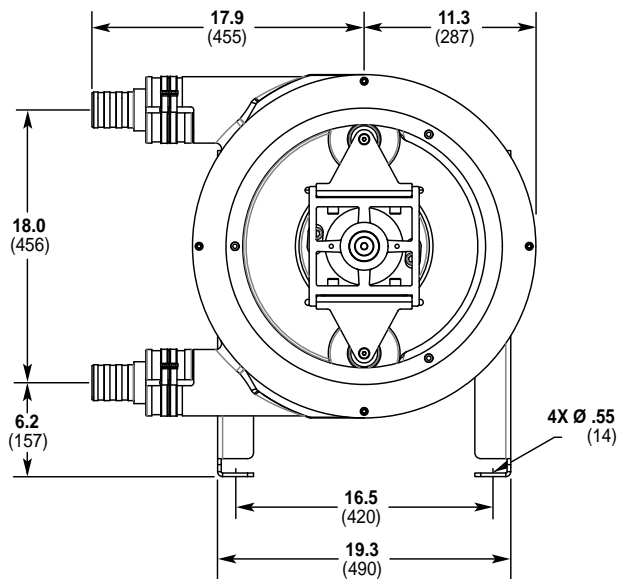
Inlet/Outlet Connections:

PTFE or Stainless Steel Hose Barb, Stainless Steel or Carbon Steel ANSI Flange, PTFE NPT, and Stainless Steel Sanitary Tri-clamp

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2007 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

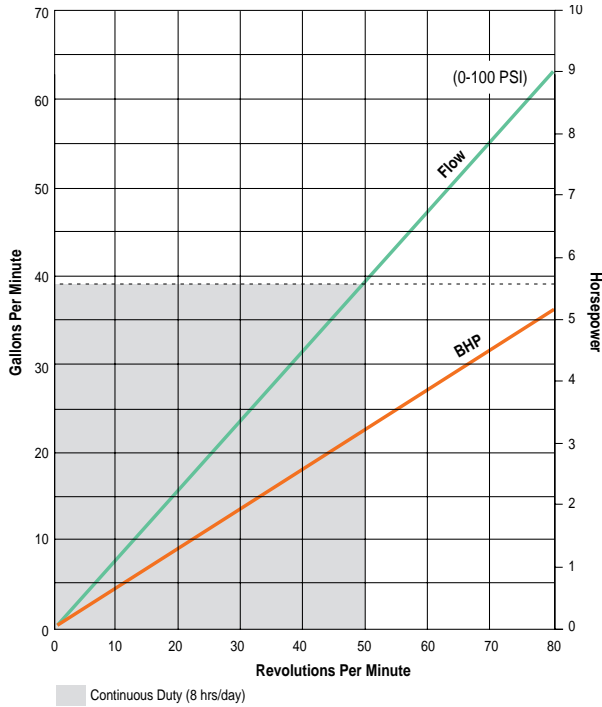
1	2	3	4	5	6	7	8	9	10
2	0	0	7						

Order Digit	Order Code	Description		
1-4 Pump Designation				
1-4	2007	Model 2007 Shaft Drive Pump		
5-6 Hose Material/Type				
5	6			
EF		EPDM, fiber-braided		
HF		Hypalon, fiber-braided		
MF		Natural Rubber, fiber-braided, heavy-duty (200 psig max.)		
NF		Natural Rubber, fiber-braided		
OF		Nitrile, Oil-rated, fiber-braided, heavy-duty (200 psig max.)		
VE		Varprene, extruded (30 psig max.)		
7-8 Connector Material/Style				
7	8			
AA		PTFE, 2" hose barb		
BB		316 SST, 2" ANSI flange		
CC		316 SST, Sanitary, 2" tri-clamp		
DD		Carbon Steel, 2" ANSI flange		
EE		Carbon Steel, 2" male NPT		
HH		PTFE, 2" male NPT		
SS		316 SST, 2.5" hose barb		
9-10 Drive				
	Flow GPM	Gear Ratio	Pump RPM	Max Psig
3Ø, 1-1/2 BHP TEFC, 230-460 VAC, 60 Hz				
4:1 Constant Torque Speed Range				
B2	7.1	121:1	14	45(60) ¹
D2	10.5	82:1	21	45(60) ¹
3Ø, 2 BHP TEFC, 230-460 VAC, 60 Hz				
4:1 Constant Torque Speed Range				
F2	15.3	58:1	30	45(60) ¹
H2	20.4	43:1	40	45(60) ¹
J2	25.8	33:1	51	40(55) ¹
3Ø, 3 BHP TEFC, 230-460 VAC, 60 Hz				
3:1 Constant Torque Speed Range				
L2	40.5	21:1	80	35(45) ¹
A				No Drive

¹() Heavy-duty, fiber-braided hose

MODEL 2008 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	100,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	36 inch (914 mm) max.

Specifications

Discharge Pressure:	100 psig (7 bar) max.
Suction Lift:	24 ft. (7.3 m)
Suction Pressure:	21 psig (1.4 bar) max.
Horsepower:*	12 max.
Hose Size:	55 x 90 x 1850 mm
Displacement:	1.05 gal/rev
Lubrication Fluid:	4 gal max.
Weight (pump only):	529 lbs. (240 kg)
Weight (with drive):	739 lbs. (336 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
Rotor: Aluminum Alloy
Rollers: Steel

Wetted Parts

Hose:

BRAIDED – Hypalon, EPDM, Natural Rubber (regular and heavy-duty), Oil-rated Nitrile

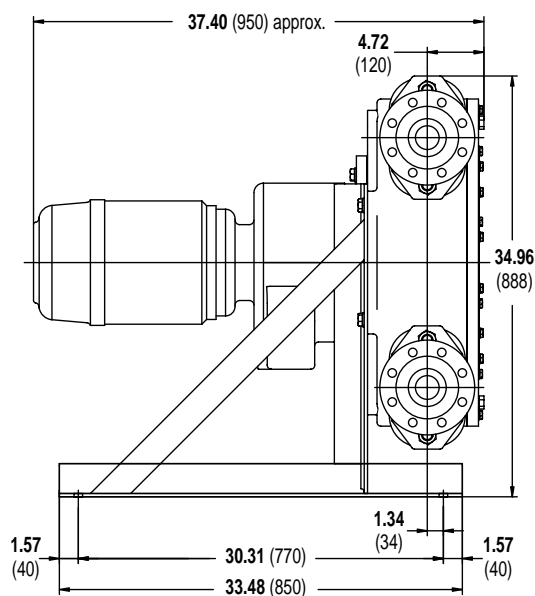
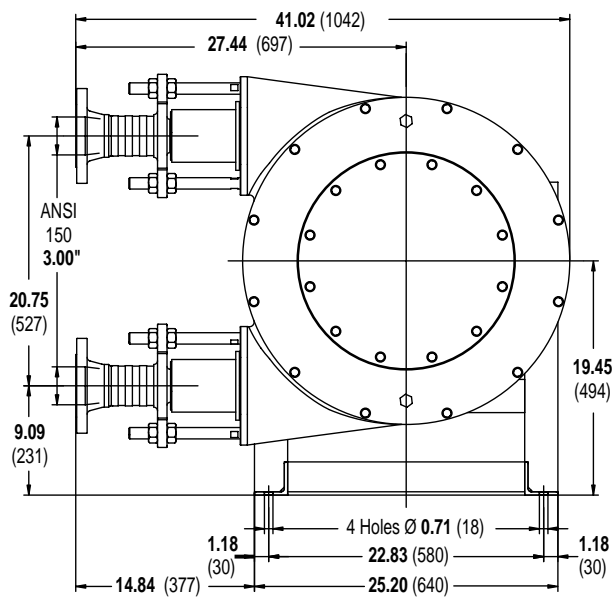
Inlet/Outlet Connections:

Stainless Steel Flange, Carbon Steel NPT, Stainless Steel NPT, Nylon NPT, Polypropylene NPT

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2008 Ordering Information

A complete Vector pump order number uses a 10-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

1	2	3	4	5	6	7	8	9	10
	2	0	0	8					

Order Digit	Order Code	Description
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1-4	2008	Pump Designation Model 2008 Shaft Drive Pump
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5-6		Hose Material/Type
	EF	EPDM, fiber-braided (75 psig max.)
	HF	Hypalon, fiber-braided (75 psig max.)
	MF	Natural Rubber, fiber-braided, heavy-duty (100 psig max.)
	NF	Natural Rubber, fiber-braided (75 psig max.)
	OF	Oil-rated Nitrile, fiber-braided, heavy-duty (100 psig max.)

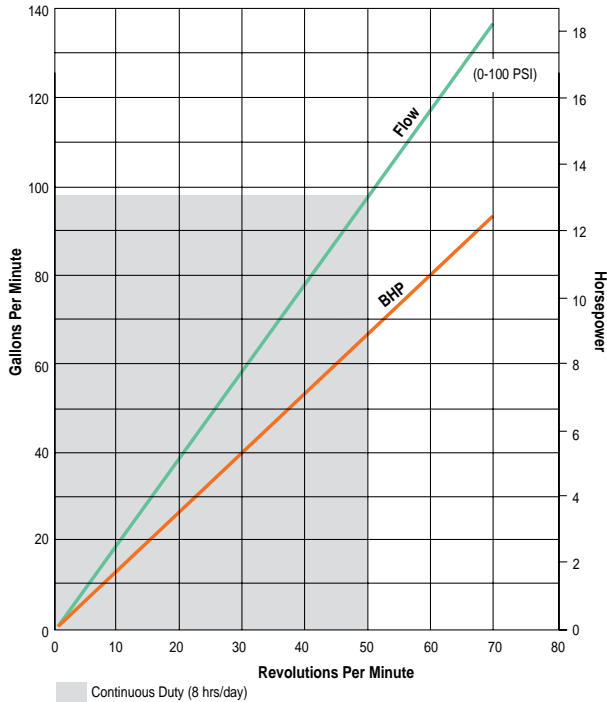
7-8		Connector Material/Style
	BB	316 SST, 3" ANSI flange
	EE	Carbon Steel, 3" male NPT
	NN	Nylon, 3" male NPT (200°F max.)
	PP	Polypropylene, 3" male NPT (185°F max.)
	TT	316 SST, 3" male NPT

9-10		Drive				
		Flow GPM	Gear Ratio	Pump RPM	Max Psig	BHP
		Three Phase, TEFC, 230-460 VAC, 60 Hz				
		4:1 Constant Torque Speed Range				
	B2	16	83:1	21	100 ⁽¹⁾	5
	D2	23	60:1	29	100 ⁽¹⁾	5
	F2	28	48:1	36	100 ⁽¹⁾	5
	H2	31	42:1	40	100 ⁽¹⁾	5
	J2	36	37:1	47	100 ⁽¹⁾	5
	L2	50	27:1	64	90 ⁽¹⁾	7.5
	A	No Drive				

¹() Fluid Viscosity Pressure Range
 0 - 500 cps 0 - 75 psig
 500 - 100,000 cps 0 - 100 psig

MODEL 2009 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	100,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	36 inch (914 mm) max.

Specifications

Discharge Pressure:	100 psig (7 bar) max.
Suction Lift:	24 ft. (7.3 m)
Suction Pressure:	21 psig (1.4 bar) max.
Horsepower:*	18 max.
Hose Size:	75 x 120 x 2400 mm
Displacement:	2.5 gal/rev
Lubrication Fluid:	8.5 gal max.
Weight (pump only):	881 lbs. (400 kg)
Weight (with drive):	1,213 lbs. (551 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing: Aluminum Alloy
Rotor: Aluminum Alloy
Rollers: Steel

Wetted Parts

Hose:

BRAIDED – Hypalon, EPDM, Natural Rubber (regular and heavy-duty), Oil-rated Nitrile

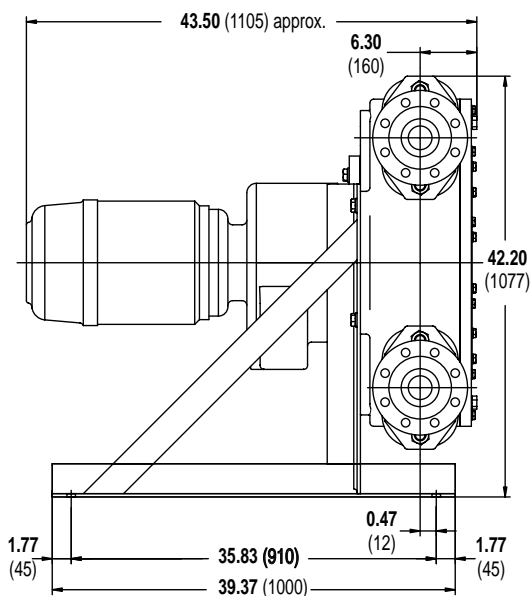
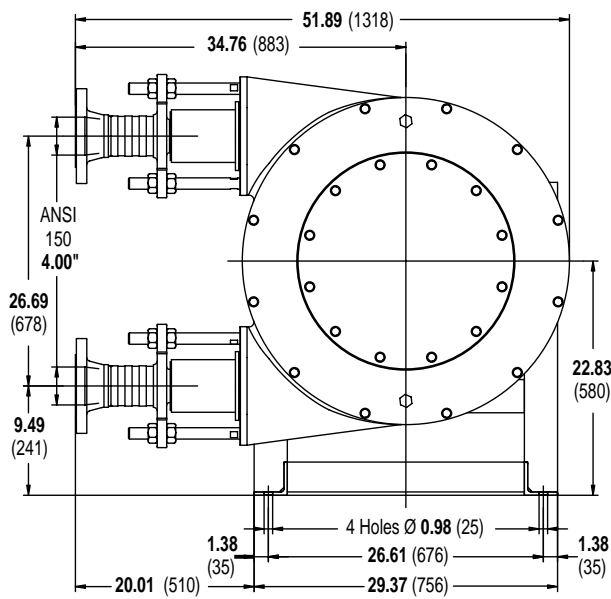
Inlet/Outlet Connections:

Stainless Steel Flange, Stainless Steel NPT, Carbon Steel NPT, Nylon NPT

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2009 Ordering Information

A complete Vector pump order number uses a 10-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

1	2	3	4	5	6	7	8	9	10
2	0	0	9	-		-		-	

Order Digit	Order Code	Description
-------------	------------	-------------

1-4 Pump Designation
2009 Model 2009 Shaft Drive Pump

5-6 Hose Material/Type

EF	EPDM, fiber-braided (75 psig max.)
HF	Hypalon, fiber-braided (75 psig max.)
MF	Natural Rubber, fiber-braided, heavy-duty (100 psig max.)
NF	Natural Rubber, fiber-braided (75 psig max.)
OF	Oil-rated Nitrile, fiber-braided, heavy-duty (100 psig max.)

7-8 Connector Material/Style

BB	316 SST, 4" ANSI flange
EE	Carbon Steel, 4" male NPT
NN	Nylon, 4" male NPT (200° F max)
TT	316 SST, 4" male NPT

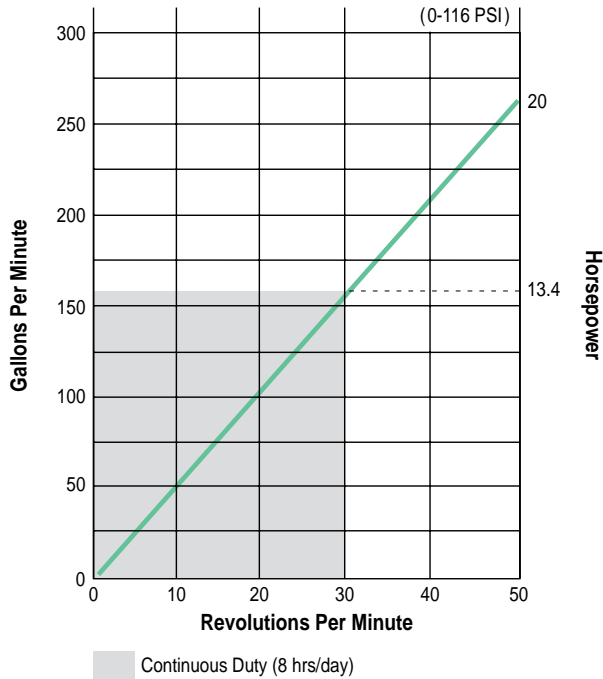
9-10 Drive

	Flow GPM	Gear Ratio	Pump RPM	Max Psig	BHP
Three Phase, TEFC, 230-460 VAC, 60 Hz					
4:1 Constant Torque Speed Range					
B2	41	79:1	21	100 ⁽¹⁾	7.5
D2	57	60:1	29	100 ⁽¹⁾	7.5
F2	73	48:1	37	100 ⁽¹⁾	7.5
H2	84	41:1	43	100 ⁽¹⁾	10
J2	97	35:1	49	100 ⁽¹⁾	10
L2	120	28:1	63	90 ⁽¹⁾	15
A	No Drive				

¹() Fluid Viscosity Pressure Range
 0 - 500 cps 0 - 75 psig
 500 - 100,000 cps 0 - 100 psig

MODEL 2010 PUMP DATA

Performance



Fluid Characteristics

Viscosity:	100,000 cps max.
Liquid Temperature:	180°F (82°C) max.
Solid Size:	(see page 4)
Fiber Length:	36 inch (914 mm) max.

Specifications

Discharge Pressure:	116 psig (8 bar) max.
Suction Lift:	22 ft. (7.3 m)
Suction Pressure:	21 psig (1.4 bar) max.
Horsepower:*	20 max.
Hose Size:	100 x 144 x 3250 mm
Displacement:	5.28 gal/rev
Lubrication Fluid:	15.85 gal max.
Weight (pump only):	1,984 lbs. (900 kg)
Weight (with drive):	2,535 lbs. (1,152 kg)

* Pumps are shaft driven and require a gearbox and motor.
See Ordering Information on following page for details.

Materials of Construction

Non-wetted Parts

Casing & Front Cover: Cast Iron
Rotor Assembly: Aluminum
Rollers: Aluminum

Wetted Parts

Hose:

FIBER BRAIDED – EPDM, Hypalon, Nitrile Rubber, Natural Rubber
(regular and heavy-duty)

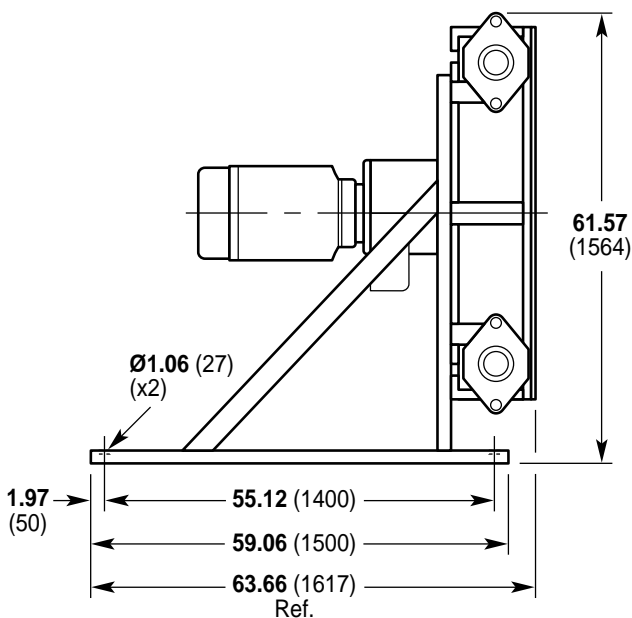
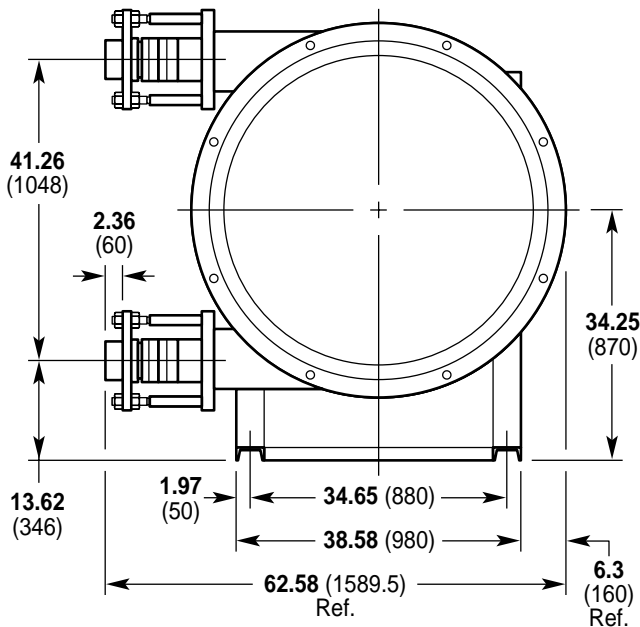
Inlet/Outlet Connections:

Carbon Steel ANSI Flange, Nylon & PVC NPT

Dimensional Drawings

Inches (mm)

See Ordering Information for motor and gearbox sizes



Model 2010 Ordering Information

A complete Vector pump order number uses a 9-character order code to identify the desired hose, fittings and drive. Select the appropriate items from the chart below and use the order code from each group to complete the pump assembly order number.

1	2	3	4	5	6	7	8	9
2	0	1	0	-		-		

Order Digit	Order Code	Description	
1-4	2010	Pump Designation Model 2010 Shaft Drive Pump	
5-6	BS EF HS MS	Hose Material/Type Oil-rated Nitrile, fiber-braided EPDM, fiber-braided Hypalon, fiber-braided (70 psig max.) Natural Rubber, fiber-braided	
7-8	DD NN PP	Connector Material/Style Carbon Steel, 6" ANSI flange Nylon, 5" ANSI flange (200°F/93.3°C max.) PVC, 5" ANSI flange (176°F/80°C max.)	
9-10	Flow GPM	Drive	
	Gear Ratio	Pump RPM	
	Max Psig	Max Psig	
	3Ø, 10 BHP TEFC, 230-460 VAC, 60 Hz		
	4:1 Constant Torque Speed Range		
B2	52	174:1	10 116 ⁽¹⁾
F2	79	114:1	15 116 ⁽¹⁾
	3Ø, 15 BHP TEFC, 230-460 VAC, 60 Hz		
	4:1 Constant Torque Speed Range		
G2	104	89:1	20 116 ⁽¹⁾
M2	153	59:1	29 116 ⁽¹⁾
	3Ø, 20 BHP TEFC, 230-460 VAC, 60 Hz		
	3:1 Constant Torque Speed Range		
T2	211	44:1	40 100 ⁽¹⁾
A	No Drive		

⁽¹⁾ () Fluid Viscosity Pressure Range
0 - 500 cps 0 - 75 psig
500 - 100,000 cps 0 - 100 psig

Other Wanner Engineering Pumps

Hydra-Cell[®] Seal-less Pumps

Nine standard pump models with maximum flow rates from 1.0 gpm to 36.5 gpm and discharge pressures from 1000 psi to 2500 psi depending on pump model.

Two high-horsepower pump models with maximum ratings of 45.0 gpm / 3000 psi, and 26.0 gpm / 5000 psi.



Hydra-Cell[®] METERING SOLUTIONS™

Six metering pump models with maximum flow rates from 26.5 gph to 894.6 gph and discharge pressures from 1000 psi to 2500 psi depending on pump model.



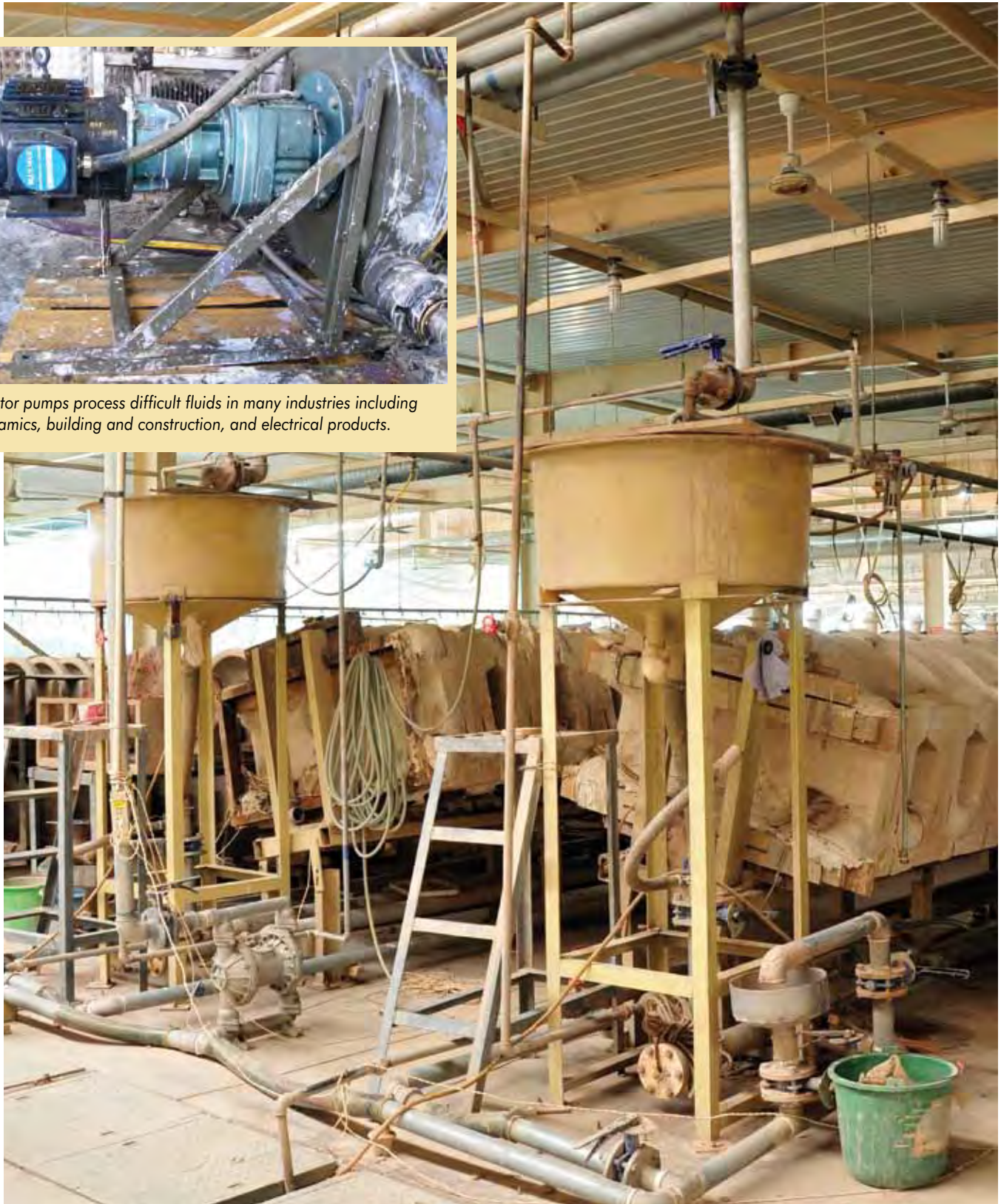
STAN-COR

Non-metallic ANSI centrifugal pumps with total dynamic head to 350 feet and flow capacities to 700 gpm.





Vector pumps process difficult fluids in many industries including ceramics, building and construction, and electrical products.



VECTOR



PERISTALTIC PUMPS



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