

Flow: up to 33 gpm (125 lpm)



**Differential Pressure:** up to 150 psi (10.3 bar)

Working Pressure: up to 300 psi (20.7 bar)

**Temperature:** from -40 to 450°F (-40 to 232°C)

Viscosity: up to 100,000 cPs







# ECLIPSE®

#### PULSAFEEDER EXPERTISE

For over 70 years, Pulsafeeder, Inc. continues to be a proven leader in fluid handling technology and innovation in chemical dosing. With extensive experience in providing fluid handling solutions, our pumps are designed to handle even the toughest applications. Known for rugged construction and dependable performance, our products are manufactured with excellence and the highest quality standards.

The Eclipse represents a dramatic advance in pump technology. Combining proven design principles with patented features, our pumps are safe, simple, and reliable. Structurally rugged with corrosion-resistant materials, Eclipse is an ideal fit for many corrosive liquids. From acids to bases, we cover the entire pH scale.

The innovative technology behind Eclipse supports its ability to handle the most corrosive chemicals with a simple-to-service, front pull-out design. Eclipse is available with wetted components in completely non-metallic construction, 316SS, and Alloy C. These material offerings ensure corrosion resistance over a wide range of chemicals and process conditions. These pumps are magnetically driven to eliminate mechanical seal wear and leaks associated with rotating seals. The patented bearing design promotes constant lubrication.

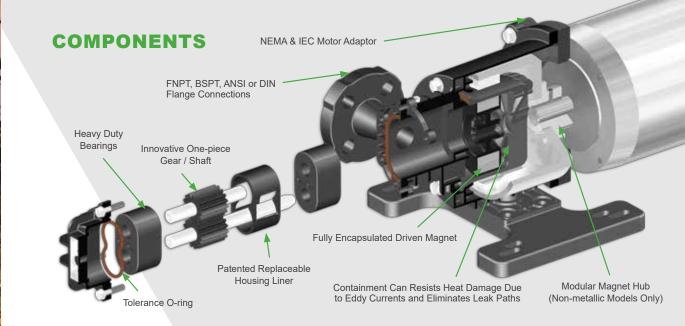
#### **PRODUCT SPECIFICATIONS**

#### Markets

- Chemical Processing
- Oil & Gas
- Petrochemical
- Wastewater Treatment
- Water Treatment Power
- Water Treatment Municipal

- **Typical Applications** 
  - Sodium Hypochlorite
  - Hydrogen Peroxide
  - Sulfuric Acid
  - Solvents
  - Caustic
  - Polymers

- Dyes & Inks
- Catalyst
- Cleaning Agents
- Flocculants
- Adhesives & Resins
- Acids



# FEATURES

#### **DESIGNED FOR SIMPLICITY**

- Fewest number of components of any external gear pump on the market
- Simplified ordering and inventory with fewer parts
- Self-aligning parts and piloted fits ensure proper assembly every time

#### **RENEWABLE PERFORMANCE**

- Patented housing liner protects the housing from wear
- Easy maintenance KOPkit® (Keep On Pumping kit) saves time and money
- Regain performance flow with a KOPkit<sup>®</sup>

#### **HEAVY DUTY BEARINGS & TOLERANCE O-RING**

- Bearings have large wear areas
- Patented bearings are made from self-lubricating materials
- Tolerance O-ring maintains proper internal operating clearances

#### **MAGNETICALLY DRIVEN SEALLESS DESIGN**

- Eliminates costly seal flush systems required for double mechanical seals
- Patented drive shaft spline design optimizes magnet alignment on shaft
- Fully encapsulated driven magnets offer maximum corrosion resistance
- Sealless design ensures zero leakage

#### **UNIVERSAL FLANGES**

- Standard housings mate to both ANSI and DIN flange connections
- PTFE or Viton<sup>®</sup> inserts act as a gasket and can be reused or replaced to ensure a proper seal (Non-metallic only)

#### **UNIVERSAL MOTOR ADAPTOR**

- Standard adaptors easily mate to multiple NEMA and IEC motors
- Wide range of motor adaptors allow for easy installation in retrofit applications











## E02 MODEL

#### **PRODUCT SPECIFICATIONS**

Flow: up to 0.45 gpm (1.7 lpm)



**Differential Pressure:** up to 150 psi (10.3 bar)

Working Pressure: up to 200 psi (13.8 bar) Non-metallic up to 300 psi (20.7 bar) Metallic

Temperature: up to 200°F (93°C) Non-metallic up to 450°F (232°C) Metallic

Viscosity: up to 1,000 cPs

E



### **DIMENSIONAL DRAWINGS**

#### Non-metallic

3.16 80.2

1

7.47

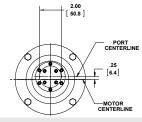
7.85 199.363/71/80 FR -

METRIC 63/71/80 FRAME MOTOR ADAPTOR OPTION

<u>6.08</u> 154.4

**Metallic** 

Ø6.50 [165.1]



Ø2.75

Ø2.00

/4 NPT OR BSPT (BOTH SIDES)

Note: For additional detailed dimensional drawings, refer to the model tech sheets on www.pulsa.com.

<u>1.38</u> 34.9  $\frac{7.25}{184.2}$  -  $\frac{3.63}{92.1}$ 

2.75

### **MATERIALS OF CONSTRUCTION**

1/4 NPT OR BSPT (BOTH SIDES)

 $\phi \frac{3.00}{76.2} \phi \frac{5.81}{147.6}$ 

Housing Magnet Liner Bearings	Housing	PVDF	316SS	Alloy C
	Neodymium encapsulated in virgin PTFE	Samarium Cobalt	Samarium Cobalt	
	Carbon reinforced PTFE	Carbon reinforced PTFE	Carbon reinforced PTFE	
	Magnet Liner	Carbon Graphite or Graphite impregnated Silicon Carbide	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE
	O-rings	Viton <sup>®</sup> , EPDM, and Kalrez <sup>®</sup> 4079	PTFE and Kalrez®	PTFE and Kalrez®

## E05 MODEL

#### **PRODUCT SPECIFICATIONS**

**Flow:** up to 1.6 gpm (6.1 lpm)



E

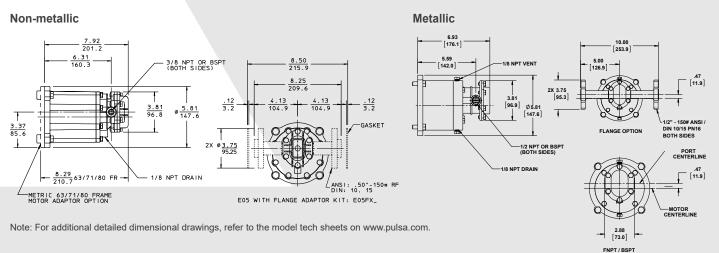
**Differential Pressure:** up to 150 psi (10.3 bar)

Working Pressure: up to 200 psi (13.8 bar) Non-metallic up to 300 psi (20.7 bar) Metallic

**Temperature:** up to 200°F (93°C) Non-metallic up to 450°F (232°C) Metallic

Viscosity: up to 100,000 cPs

### **DIMENSIONAL DRAWINGS**



### **MATERIALS OF CONSTRUCTION**

Housing	PVDF	316SS	Alloy C
Magnet	Neodymium encapsulated in virgin PTFE	Neodymium or Samarium Cobalt	Neodymium or Samarium Cobalt
Liner	Carbon reinforced PTFE	Carbon reinforced PTFE	Carbon reinforced PTFE
Bearings	Carbon Graphite or Graphite impregnated Silicon Carbide	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE
O-rings	Viton <sup>®</sup> , EPDM, and Kalrez <sup>®</sup> 4079	PTFE and Kalrez <sup>®</sup>	PTFE and Kalrez®

NSF/ANSI 61\* (Ex) CE

## E12 MODEL

#### **PRODUCT SPECIFICATIONS**

**Flow:** up to 3.5 gpm (13.2 lpm)



E

**Differential Pressure:** up to 150 psi (10.3 bar)

Working Pressure: up to 200 psi (13.8 bar) Non-metallic up to 300 psi (20.7 bar) Metallic

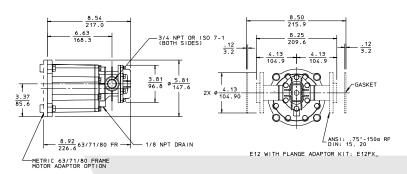
**Temperature:** up to 200°F (93°C) Non-metallic up to 450°F (232°C) Metallic

Viscosity: up to 100,000 cPs



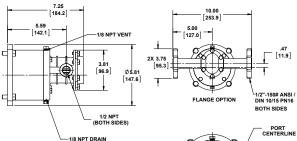
#### **DIMENSIONAL DRAWINGS**

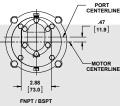
#### Non-metallic



Note: For additional detailed dimensional drawings, refer to the model tech sheets on www.pulsa.com.

Metallic





### **MATERIALS OF CONSTRUCTION**

Housing Magnet Liner Bearings	Housing	PVDF	316SS	Alloy C
	Neodymium encapsulated in virgin PTFE	Neodymium or Samarium Cobalt	Neodymium or Samarium Cobalt	
	Magnet Neodymium encap   Liner Carbon rei   Bearings Carbon Graphite or Silicor	Carbon reinforced PTFE	Carbon reinforced PTFE	Carbon reinforced PTFE
		Carbon Graphite or Graphite impregnated Silicon Carbide	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE
	O-rings	Viton <sup>®</sup> , EPDM, and Kalrez <sup>®</sup> 4079	PTFE and Kalrez®	PTFE and Kalrez®

## E25 MODEL

#### **PRODUCT SPECIFICATIONS**

Flow: up to 7.4 gpm (28 lpm)



E

**Differential Pressure:** up to 150 psi (10.3 bar)

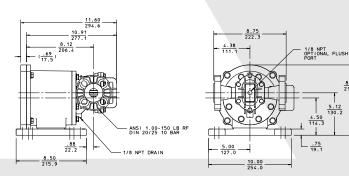
Working Pressure: up to 200 psi (13.8 bar) Non-metallic up to 300 psi (20.7 bar) Metallic

**Temperature:** up to 200°F (93°C) Non-metallic up to 450°F (232°C) Metallic

Viscosity: up to 100,000 cPs

### **DIMENSIONAL DRAWINGS**

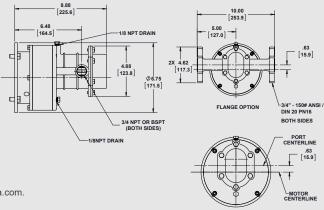
#### Non-metallic



Note: For additional detailed dimensional drawings, refer to the model tech sheets on www.pulsa.com.

<image>

Metallic



FNPT / BSP

### **MATERIALS OF CONSTRUCTION**

Housing	PVDF	316SS Alloy C				
Magnet	Neodymium encapsulated in virgin PTFE	Neodymium or Samarium Cobalt	Neodymium or Samarium Cobalt			
Liner	Carbon reinforced PTFE	Carbon reinforced PTFE	Carbon reinforced PTFE			
Bearings	Carbon Graphite or Graphite impregnated Silicon Carbide	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE			
O-rings	Viton <sup>®</sup> , EPDM, and Kalrez <sup>®</sup> 4079	PTFE and Kalrez®	PTFE and Kalrez®			

8.50

# E75 & E125 MODEL

#### **PRODUCT SPECIFICATIONS**

Flow: up to 33 gpm (125 lpm)



**Differential Pressure:** up to 150 psi (10.3 bar)

Working Pressure: up to 200 psi (13.8 bar) Non-metallic up to 300 psi (20.7 bar) Metallic

**Temperature:** up to 200°F (93°C) Non-metallic up to 450°F (232°C) Metallic

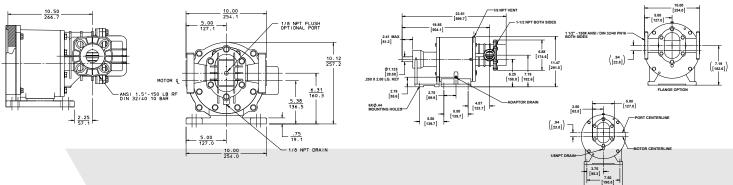
Viscosity: up to 100,000 cPs



#### **DIMENSIONAL DRAWINGS**

#### Non-metallic

Metallic

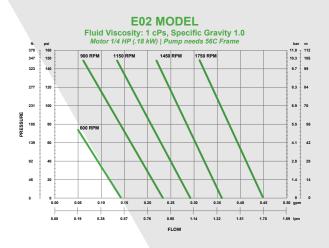


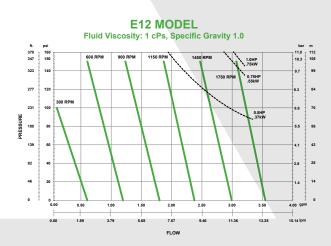
Note: For additional detailed dimensional drawings, refer to the model tech sheets on www.pulsa.com.

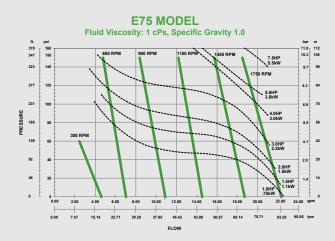
### **MATERIALS OF CONSTRUCTION**

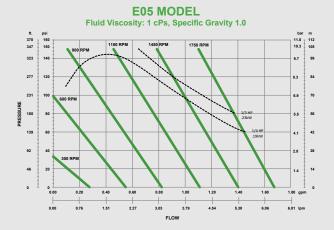
Housing Magnet Liner Bearings	Housing	PVDF	316SS	Alloy C
	Neodymium encapsulated in virgin PTFE	Samarium Cobalt	Samarium Cobalt	
	Magnet Liner	Carbon reinforced PTFE	Carbon reinforced PTFE	Carbon reinforced PTFE
		Carbon Graphite or Graphite impregnated Silicon Carbide	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE	Carbon Graphite, Graphite impregnated Silicon Carbide, or PTFE
	O-rings	Viton <sup>®</sup> , EPDM, and Kalrez <sup>®</sup> 4079	PTFE and Kalrez®	PTFE and Kalrez®

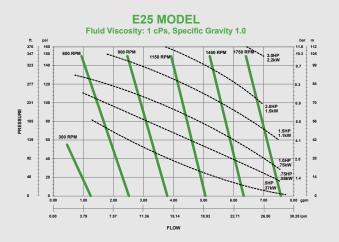
## **FLOW CURVES**

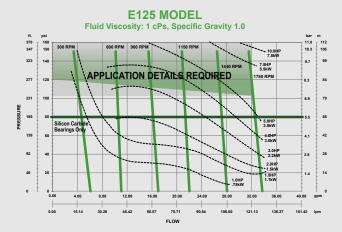












## **MODEL STRINGS**

#### **NON-METALLIC PUMP CONFIGURATION STRING**

Pump Selection	Available Model	Code	Description	E	-	-	-	-	-	-
Positions 1, 2, 3 PUMP SIZE	E	02 05 12 25 75 125	Size 02 - Max. Flow .45 gpm (1.7 lpm) 1/4"-18 FNPT / 1/4"-19 BSPT Size 05 - Max. Flow 1.6 gpm (6.1 lpm) 3/8"-18 FNPT / 3/8"-19 BSPT Size 12 - Max. Flow 3.5 gpm (13.2 lpm) 3/4"-14 FNPT / 3/4"-14 BSPT Size 25 - Max. Flow 7.4 gpm (28 lpm) Flanged 1"-150# ANSI / DIN 20 / 25 Size 75 - Max. Flow 22 gpm (83.3 lpm) Flanged 1 1/2"-150# ANSI / DIN 32 / 40 Size 125 - Max. Flow 33 gpm (125 lpm) Flanged 1 1/2"-150# ANSI / DIN 32 / 40							
Position 4 BASE MATERIAL	02,05 02,05 <b>Export Res</b> 12 12 25,75,125	K M striction: K M N	PVDF / FNPT PVDF / BSPT, s apply to the following sizes listed below: PVDF / FNPT PVDF / BSPT, PVDF, Flanged							
Position 5 BEARINGS	02,05,12,25,75,125	L B	Carbon Silicon Carbide							
Position 6 O-RINGS	02,05,12,25,75,125	V E K	Viton® EPDM Kalrez® Grade 4079							
Position 7 MOTOR MOUNTING ARRANGEMENTS	$\begin{array}{c} 02,05,12,25,75\\ 02,05,12,25,75,125\\ 75,125\\ 75,125\\ 02,05,12\\ 02,05,12\\ 02,05,12\\ 02,05,12,25,75\\ 25,75\\ 25,75\\ 25,75,125\\ 02,05,12,25,75,125\\ \end{array}$	F O R W H J K L P Y	NEMA 56C (C-face, rigid base, 5/8" shaft diameter, 4x 3/8"-16 tapped holes on a 5-7/8" bolt circle) NEMA 143/5TC-182/4C (C-face, rigid base, 7/8" shaft diameter, 4x 3/8"-16 tapped holes on a 5-7/8" bolt circle) NEMA 182TC-184TC (C-face, rigid base, 1-1/8" shaft diameter, 4x 1/2"-13 tapped holes on a 7-1/4" bolt circle) NEMA 213TC-215TC (C-face, rigid base, 1-3/8" shaft diameter, 4x 1/2"-13 tapped holes on a 7-1/4" bolt circle) IEC 63 B3/B14 (rigid base, C-face, 11 mm motor shaft diameter, 4x M5 tapped holes on a 75 mm bolt circle) IEC 71 B3/B14 (rigid base, C-face, 14 mm motor shaft diameter, 4x M6 tapped holes on a 85 mm bolt circle) IEC 80 B3/B14 (rigid base, C-face, 19 mm motor shaft diameter, 4x M6 tapped holes on a 100 mm bolt circle) IEC 90 B3/B14 (rigid base, C-face, 24 mm motor shaft diameter, 4x M8 tapped holes on a 115 mm bolt circle) IEC 100/112 B3/B14 (rigid base, C-face, 28 mm motor shaft diameter, 4x M8 tapped holes on a 130 mm bolt circle)	÷)						
Position 8	02,05,12,25,75,125	-	Dash							
Position 9 OPTIONS	02,05,12,25,75,125 05,12,25,75,125 02,05,12,25,75,125 05,12,25,75,125 02,05,12,25,75,125 05,12,25,75,125 02,05,12,25,75,125 05,12,25,75,125	X A N B X-ATEX A-ATEX N-ATEX B-ATEX	Standard (Complete Pump - No Options) Bearing Flush Port (1x 1/8" FNPT / BSPT Connection located in the center of the front cover) Pump Wet End Only (Only available in conjunction with 7th position option "Y") Combination Of 9th Position Options "A" AND "N" Standard Pump with ATEX Directive - CE Ex II 2G T6 II 2D T6 Bearing Flush with ATEX Directive - CE Ex II 2G T6 II 2D T6 Wet End Only with ATEX Directive - CE Ex II 2G T6 II 2D T6 Wet End Only with ATEX Directive - CE Ex II 2G T6 II 2D T6 Wet End Only and Bearing Flush with ATEX Directive - CE Ex II 2G T6 II 2D T6							

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#### **METALLIC PUMP CONFIGURATION STRING**

Pump Selection	Available Model	Code		Descript	ion		E				
Positions 1, 2, 3 PUMP SIZE	E	02 05 12 25 75 125	Size 05 - Max. Flow 1.6 g Size 12 - Max. Flow 3.5 g Size 25 - Max. Flow 7.4 Size 75 - Max. Flow 22 gpm Size 125 - Max. Flow 33 gpm	6 N16							
Position 4 BASE	02,05,12,25,75,125 02,05,12,25,75,125 02,05 02,05 05,12,25,75,125 05,12,25,75,125 05	A G C S U V		316SS / FN 316SS / BS ALLOY C / FI ALLOY C / Bi 316SS / Flar ALLOY C / Fla	PT NPT SPT nge						
MATERIAL	Export	t Restric	tions apply to the fo	llowing sizes listed b	elow:						
	12,25,75,125 12,25,75,125 12,25,75,125	C S V		ALLOY C / FI ALLOY C / B ALLOY C / Fi	SPT						
Position 5 BEARINGS	02,05,12,25,75,125	L B T	Silicon Carbide** Silic	Carbon on Carbide bearings, must select Glass Filled PTFE 11(		mina ceramic shafts)					
Position 6 O-RINGS	02,05,12,25,75,125	U K	Kalrez® G	PTFE rade 4079 (recommended for fluc	stuating temperature appl	lications)					
Position 7 MOTOR FRAME MOUNTING	02,05,12,25 05,12,25 02 02,05,12 05,12,25 25 75,125 75,125	F O H J K L R U	NEMA 143/5TC (C-fac IEC 63 B3/B14 (rigid base IEC 71 B3/B14 (rigid base IEC 80 B3/B14 (rigid base IEC 90 B3/B14 (rigid base NEM/	rigid base, 5/8" shaft diameter, 4x e, rigid base, 7/8" shaft diameter, e, C-face, 11 mm motor shaft diam e, C-face, 14 mm motor shaft diam c, C-face, 19 mm motor shaft diam c, C-face, 24 mm motor shaft diam A - Pedestal with 1.125" Shaft Dia IEC - Pedestal with 28mm Shaft	4x 3/8"-16 tapped holes neter, 4x M5 tapped hole neter, 4x M6 tapped hole neter, 4x M6 tapped holes neter, 4x M8 tapped holes meter (182-184T or 213-	on a 5-7/8" bolt circle) s on a 75 mm bolt circle s on a 85 mm bolt circle s on a 100 mm bolt circle s on a 115 mm bolt circle	) e)				
Position 8	02,05,12,25,75,125	-		Dash							
		-	DRIVE			GNET MATERIAL					
			(SHAFT / GEAR)	IDLER (SHAFT / GEAR)	E02,E75,E125	E05,E12,E25	MAXIMUM	Temperatu	ire		
Position 9		S F B A C	316SS / PTFE 316SS / 316SS ALUMINA / PTFE Alloy C / PTFE Alloy C / Alloy C	AlGSS / PTFE 316SS / PTFE ALUMINA / PTFE Alloy C / PTFE Alloy C / PTFE	Samarium Cobalt	Neodymium	200°F 200°F 200°F	F (93°C) F (93°C) F (93°C) F (93°C) F (93°C) F (93°C)			
HAFT /GEAR / MAGNET OPTIONS	02,05,12,25,75,125	V D E	316SS / 316SS Alloy C / Alloy C Alloy C / Alloy C	316SS / 316SS Alloy C / Alloy C 316SS / 316SS	NOT AVAILABLE NOT AVAILABLE NOT AVAILABLE	Neodymium	300°F 300°F	(149°C) (149°C) (149°C)			
		т — G Р _	316SS / 316SS Alloy C / Alloy C ALUMINA / PEEK	316SS / PEEK Alloy C / PEEK ALUMINA / PEEK	Samarium Cobalt	Samarium Cobalt	400°F 400°F	(204°C) (204°C) (204°C)			
		H J K	316SS / 316SS Alloy C / Alloy C Alloy C / Alloy C	316SS / 316SS Alloy C / Alloy C 316SS / 316SS	Samarium Cobalt	Samarium Cobalt	450°F	(232°C) (232°C) (232°C)			
Position 10 OPTIONS	02,05,12,25,75,125	Ν	WET END	ONLY (Requires 7th position code	e identifying motor frame	mounting)					

All pumps include ATEX Directive - CE Ex II 2G TX II 2D TX





#### **KOPKIT® (KEEP ON PUMPING KIT)**

- Designed to guard against unnecessary downtime and assure the highest level of efficient and uninterrupted service from your pump.
- In the event of a breakdown, KOPkit® will put you back in business fast!

### **BACK PRESSURE VALVES**

- Particularly useful in metering applications or other low-flow systems
- Prevents mainstream pressure surges and siphoning



#### **PRESSURE GAUGES**

- Relied on to measure pressure in the system. Proper pressure is necessary to ensure flow.
- Accurate and reliable.

### **PRESSURE RELIEF VALVES**

• Prevent an over pressurization situation from damaging your pump or system.

#### **Y-STRAINERS**

- Capture out debris in pipelines, protecting equipment and processes.
- Prevent premature wear of the rotating components within a pump.



#### Pulsafeeder, Inc.

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