



**PULSAFEEDER**  
A Unit of IDEX Corporation

**Eclipse**  
The Power of  
Design Innovation

**Eclipse**  
Series

Reliable  
Simple  
Intuitive

## Pulsafeeder Technology

Since 1936, Pulsafeeder has been recognized as a world leader in fluid handling and control technology. Pulsafeeder continues to deliver innovative solutions through a dedication to world-class design, application and systems integration expertise. The highest quality engineering precision and dependability is designed into each product manufactured by Pulsafeeder to maximize performance and ensure **global customer satisfaction**.

## Eclipse Series Pumps

The Eclipse Series represents a dramatic advance in pump technology. Combining proven design principles with state of the art engineered composites, the Eclipse Series is the most reliable, simple and intuitive pump on the market today.

## Industrial Construction

Eclipse Series pumps are built for use in the harshest industrial environments. Designed to be structurally rugged with corrosion-resistant materials, the Eclipse is an ideal fit for many medium to highly corrosive liquids used in the chemical processing, pulp and paper and water treatment industries.

## Application Expertise

Pulsafeeder's vast experience in fluid handling provides the ultimate engineering expertise and application support to evaluate and customize process solutions.

### Eclipse Series Product Scope

- Flows to 20gpm (4.5m<sup>3</sup>/hr)
- Pressures to 150psi (10 bar)
- Temperatures to 150° F (66° C)
- Viscosities to 10,000 CPS
- 2 feet NPSHR
- Pulsation-Free Flow
- Dry run capabilities

### Materials of Construction

- Housings: Carbon-Reinforced ETFE
- Gears: Carbon-Reinforced PTFE
- Shafts: Alumina Ceramic
- Bearings: Carbon Graphite or Graphite-Impregnated Silicon-Carbide

### Typical Applications

- Acids
- Solvents
- Caustics
- Polymers
- Bleaches
- Dyes/Inks
- pH Control
- Catalysts
- Cleaning Agents
- And many more

### Markets



Chemical



Food & Beverage



Pharmaceutical



Mining



Paints & Dyes



Petroleum



Petrochemical



Pulp & Paper



Power & Energy



Water Treatment



General Industries



Steel Industry

## Eclipsing the Competition with New Levels of Reliability, Simplicity and Intuitiveness

The Eclipse Series is a line of innovational non-metallic industrial gear pumps designed for optimal performance and simplicity in operation and maintenance.

### Corrosion Resistance:

- All wetted components are completely non-metallic.
- Pump housings and gears are made of Engineered Fluoropolymers with excellent corrosion resistance and strength over a broad range of chemicals and temperatures.
- No need for expensive high alloys prone to corrosion damage.



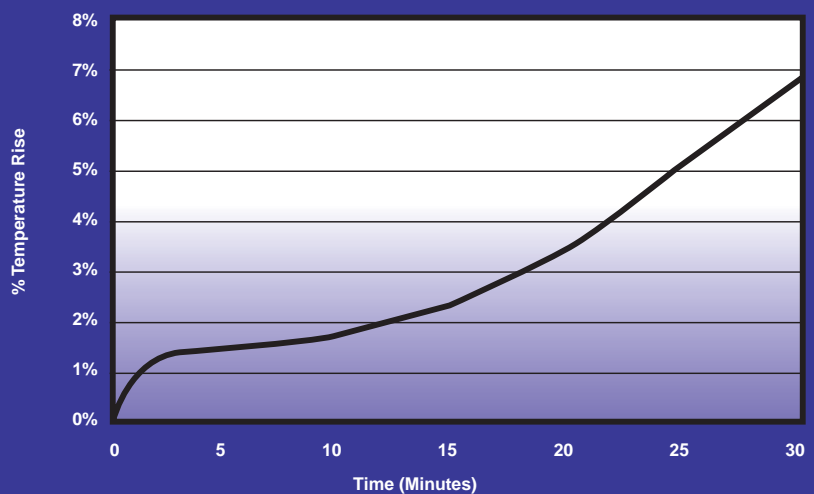
### Sealless Design:

- Eclipse Series pumps are magnetically driven, meaning there is no mechanical seal with contacting seal faces that are prone to wear and leakage.
- Eliminates costly seal flush systems required for double mechanical seals.
- Zero leakage, no emissions of hazardous or regulated chemicals.
- A non-metallic containment can eliminate energy loss and heat rise due to Eddy Current losses common in metallic pumps.

### Dry Run Capabilities:

- Capable of up to 30 minutes of dry-run conditions.
- Pump is protected from damage during system upset conditions such as a closed suction valve or empty supply tank.
- The patent pending bearing design promotes constant lubrication during periods of dry run.

### % Temperature Rise During Dry Run





### Design for Simplicity

- Total number of parts dramatically reduced.
- 16 total parts on the Eclipse Series vs. 40+ on typical metallic pumps.
- Fewer parts and material options means simplified ordering and inventory.
- Self-aligning parts and piloted fits ensure proper assembly every time.

### Front-Pullout Design

- Replace all normal wear components without disturbing piping or motor connections.
- Pump can be serviced-in-place in a matter of minutes.
- Reduced down time means less maintenance costs, more production time.

### Universal Flanges with PTFE Inserts

- Standard housings mate to both ANSI and DIN flange connections.
- PTFE inserts act as a gasket and can be reused or replaced to ensure a proper seal.

### Renewable Performance

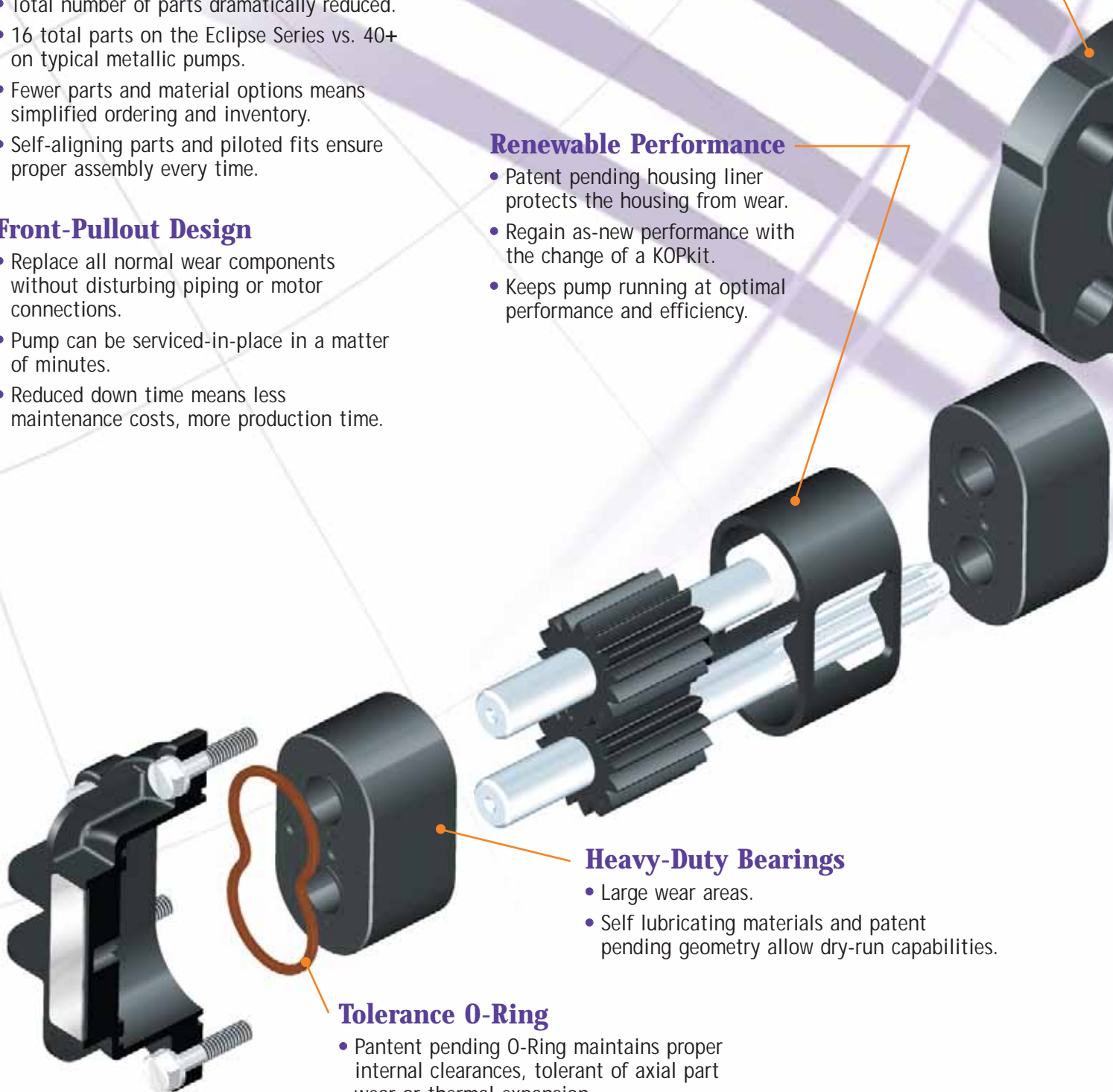
- Patent pending housing liner protects the housing from wear.
- Regain as-new performance with the change of a KOPkit.
- Keeps pump running at optimal performance and efficiency.

### Heavy-Duty Bearings

- Large wear areas.
- Self lubricating materials and patent pending geometry allow dry-run capabilities.

### Tolerance O-Ring

- Patent pending O-Ring maintains proper internal clearances, tolerant of axial part wear or thermal expansion.



### Universal Motor Adapter

- Standard adapters mate to multiple NEMA and IEC motors.

### Modular Magnet Hub

- One drive magnet per pump size, with interchangeable adapter-hubs to fit both standard NEMA and IEC motors.

### Fully Encapsulated Magnets

- Maximum corrosion resistance.
- Patent pending spline design allows the magnet to “float” on shaft.
- Magnet will self-align with no added fasteners.
- No axial loads induced on the drive shaft.

### Close-Coupled Mounting

- Eliminates the cost and potential issues associated with pump and motor alignment.

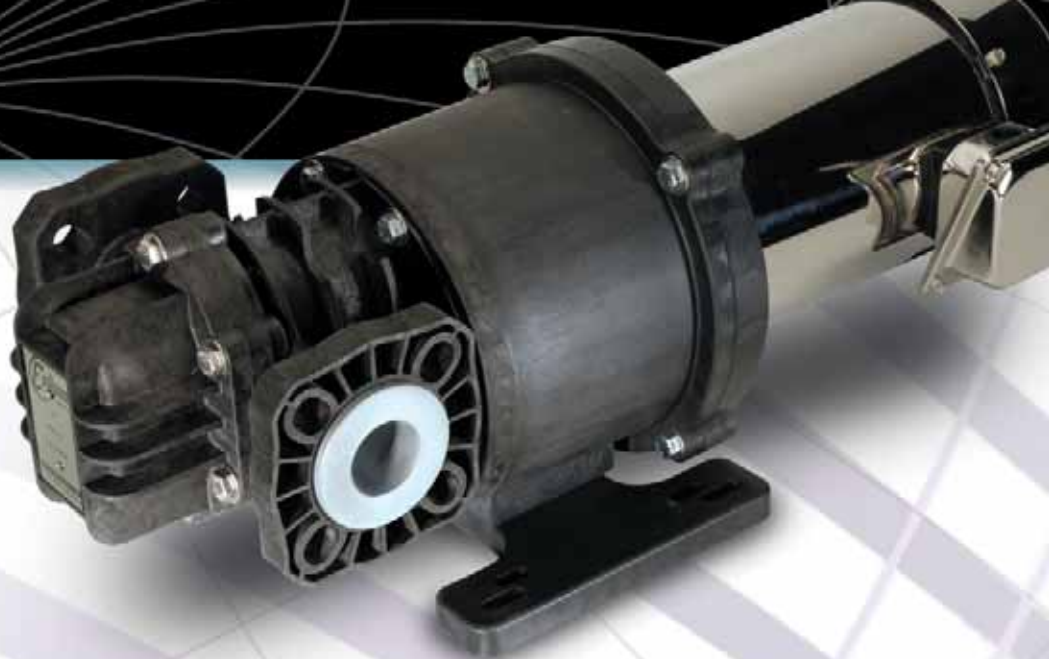


### KOPkits®

KOPkits are designed to guard against unnecessary down time and ensure the highest level of efficient and uninterrupted service. This kit includes the recommended spare parts to maintain as-new hydraulic performance.

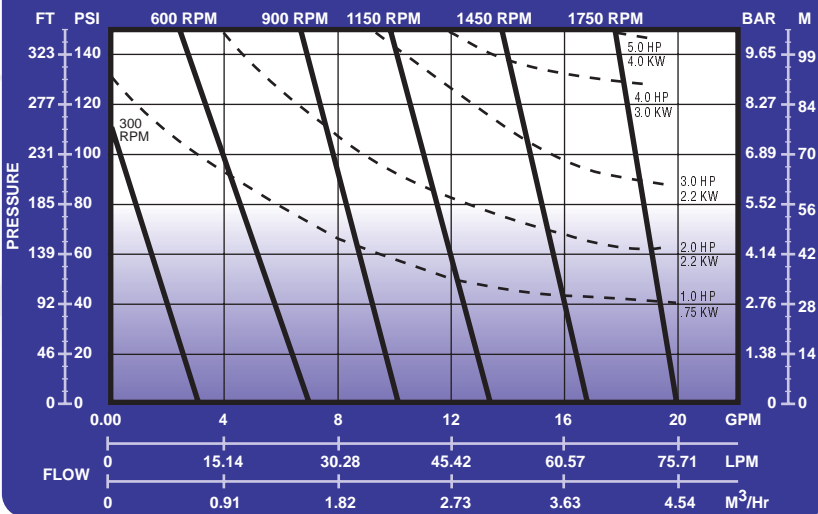
Reliable  
Simple  
Intuitive

# Eclipse Series 75



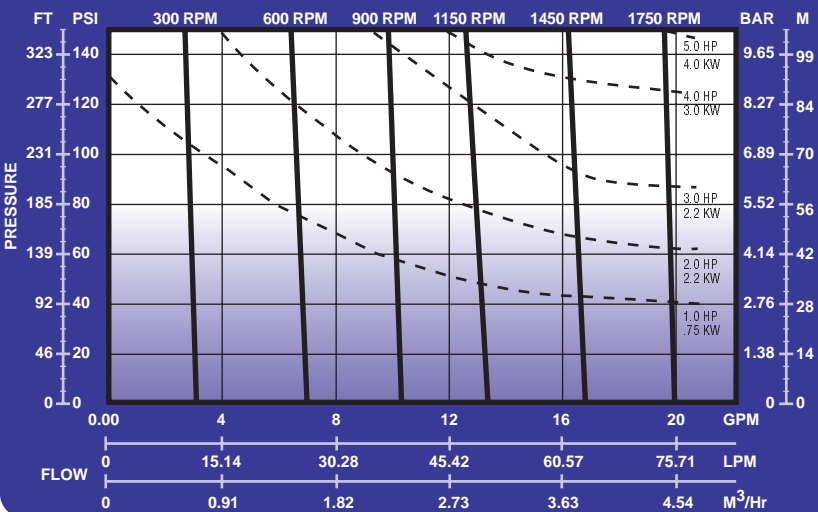
## Eclipse 75

Fluid Viscosity: 1 CPS



## Eclipse 75

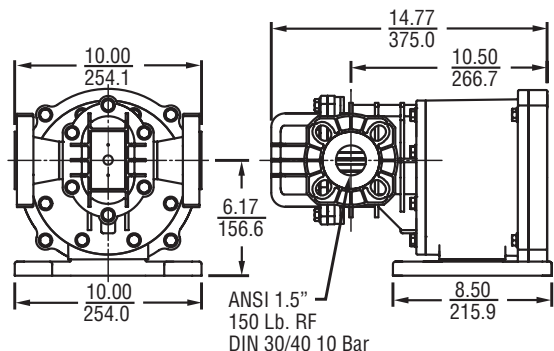
Fluid Viscosity: 100 CPS



## General Specifications

|                                    |  |
|------------------------------------|--|
| Port Size and Type                 | 1.5 inch ANSI 150# / DIN 32/40 Flanged   |
| Direction of Rotation              | Bi-directional                           |
| Theoretical Displacement           | 1.423 US gal / 100 rev. (53.9 cc / rev.) |
| Maximum Differential Pressure      | 150 psig (10 bar)                        |
| Maximum Allowable Working Pressure | 200 psig (14 bar)                        |
| Maximum Speed                      | 1750 rpm                                 |
| Maximum Capacity at 0 psig         | 20 US gpm (75 LPM)                       |
| Maximum Viscosity                  | 10,000 cps                               |
| Maximum Fluid Temperature          | *150° F (66° C)                          |
| Fluid pH Range                     | 0-14                                     |
| Gear Type                          | External Spur Gear                       |
| Bearing Type                       | Sleeve Bearing<br>Integral Wear Plate    |
| Motor Frame Sizes - NEMA           | 143/145TC and 182/184TC                  |
| Motor Frame Sizes - IEC            | 100/112 B14 Face                         |

\*200° F (93° C) with derated pressures

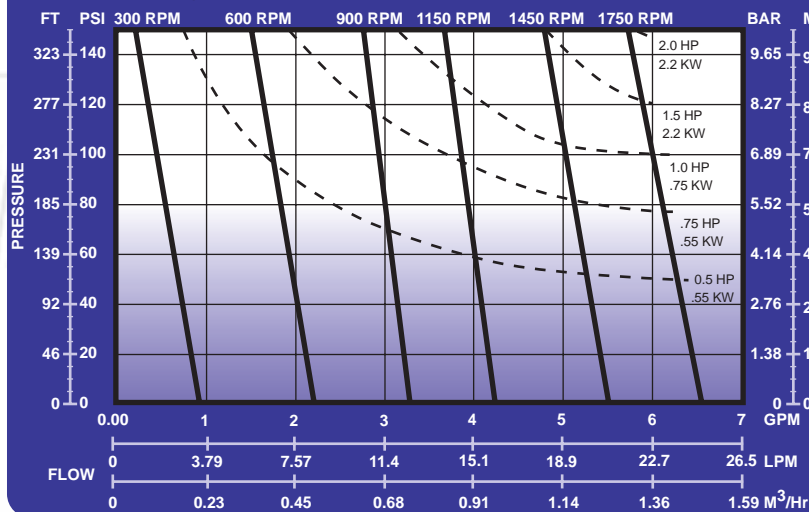


# Eclipse Series 25



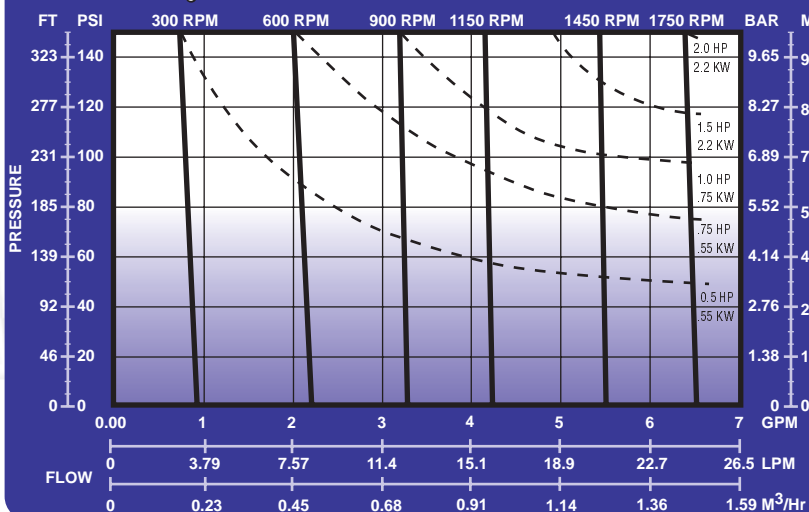
## Eclipse 25

Fluid Viscosity: 1 CPS



## Eclipse 25

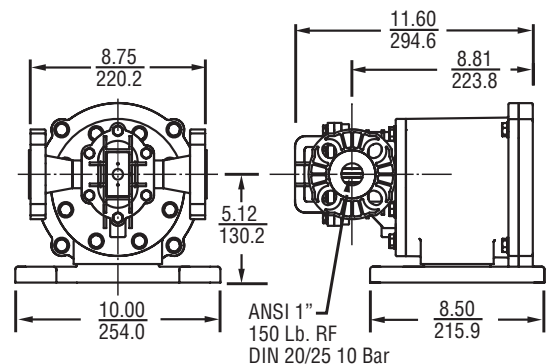
Fluid Viscosity: 100 CPS



## General Specifications

|                                    |  |
|------------------------------------|--|
| Port Size and Type                 | 1 inch ANSI 150# / DIN 20/25 Flanged     |
| Direction of Rotation              | Bi-directional                           |
| Theoretical Displacement           | 0.479 US gal / 100 rev. (18.1 cc / rev.) |
| Maximum Differential Pressure      | 150 psig (10 bar)                        |
| Maximum Allowable Working Pressure | 200 psig (14 bar)                        |
| Maximum Speed                      | 1750 rpm                                 |
| Maximum Capacity at 0 psig         | 6.5 US gpm (24.6 LPM)                    |
| Maximum Viscosity                  | 10,000 cps                               |
| Maximum Fluid Temperature          | *150° F (66° C)                          |
| Fluid pH Range                     | 0-14                                     |
| Gear Type                          | External Spur Gear                       |
| Bearing Type                       | Sleeve Bearing<br>Integral Wear Plate    |
| Motor Frame Sizes - NEMA           | 56C, 143/145TC and 182C                  |
| Motor Frame Sizes - IEC            | 100/112<br>B14 Face                      |

\*200° F (93° C) with derated pressures

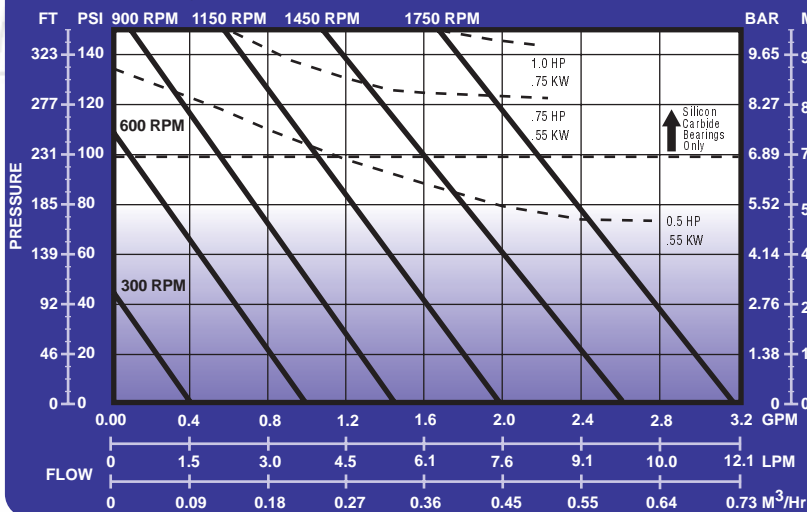


# Eclipse Series 12



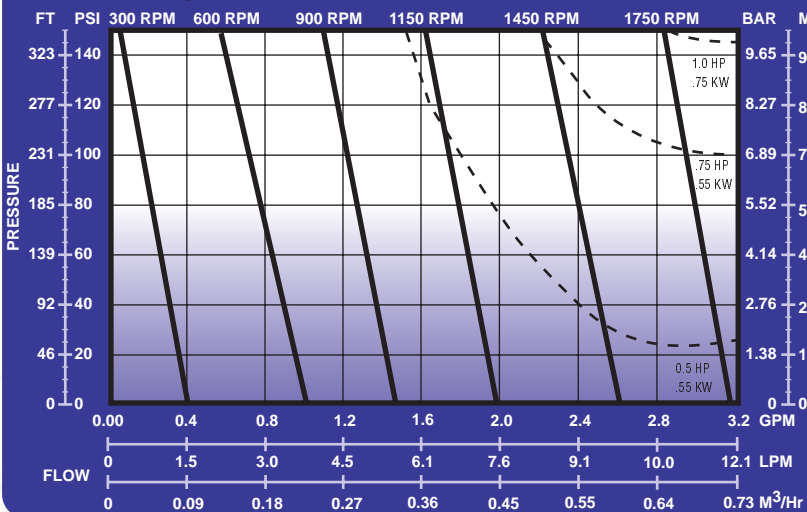
## Eclipse 12

Fluid Viscosity: 1 CPS



## Eclipse 12

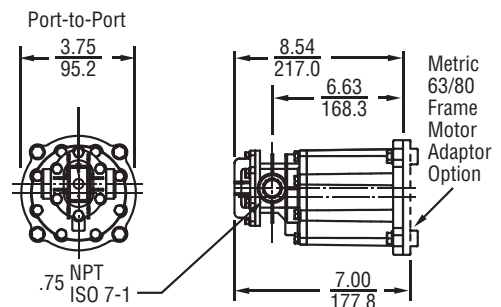
Fluid Viscosity: 100 CPS



## General Specifications

|  |   |
|--|---|
| Port Size and Type                                     | 3/4 inch FNPT or ISO 7-1                |
| Direction of Rotation                                  | Bi-directional                          |
| Theoretical Displacement                               | 0.226 US gal / 100 rev. (8.6 cc / rev.) |
| Maximum Differential Pressure Carbon Bearings          | 100 psig (6.8 bar)                      |
| Maximum Differential Pressure Silicon Carbide Bearings | 150 psig (10 bar)                       |
| Maximum Allowable Working Pressure                     | 200 psig (14 bar)                       |
| Maximum Speed  | 1750 rpm                                |
| Maximum Capacity at 0 psig                             | 3.2 US gpm (12.1 LPM)                   |
| Maximum Viscosity                                      | 10,000 cps                              |
| Maximum Fluid Temperature                              | *150° F (66° C)                         |
| Fluid pH Range   | 0-14                                    |
| Gear Type  | External Spur Gear                      |
| Bearing Type   | Sleeve Bearing<br>Integral Wear Plate   |
| Motor Frame Sizes - NEMA                               | 56C and 143/145TC                       |
| Motor Frame Sizes - IEC                                | 63 and 80 B3/B14                        |

\*200° F (93° C) with derated pressures

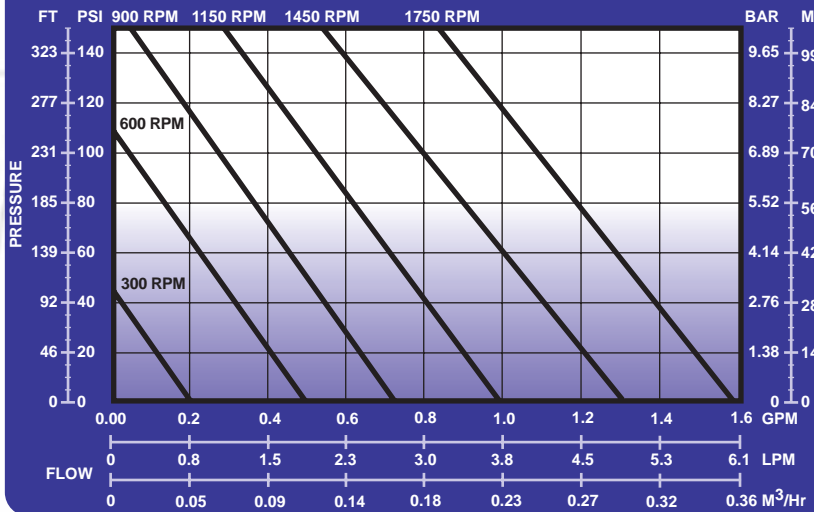


# Eclipse Series 5



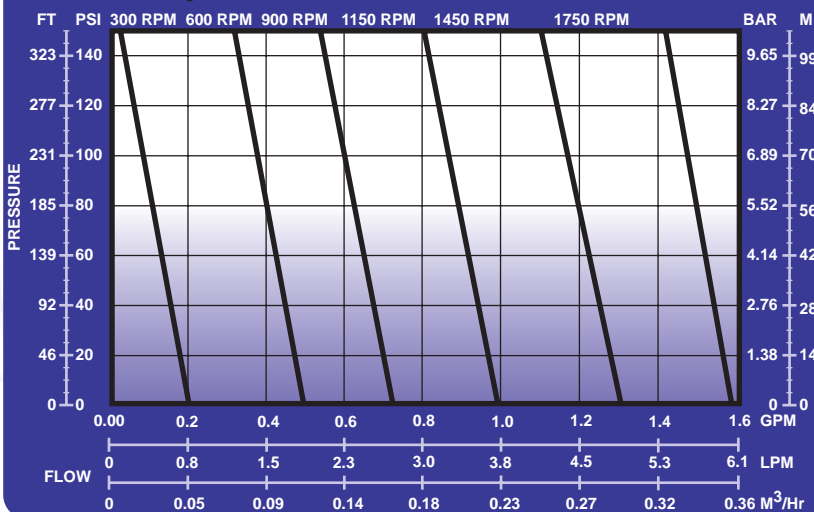
## Eclipse 5

Fluid Viscosity: 1 CPS



## Eclipse 5

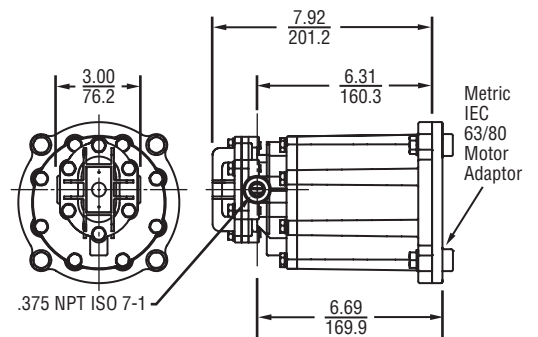
Fluid Viscosity: 100 CPS



## General Specifications

|   |   |
|---|---|
| Port Size and Type                            | 3/8 inch FNPT or ISO 7-1                |
| Direction of Rotation                         | Bi-directional                          |
| Theoretical                                   | 0.113 US gal / 100 rev. (4.3 cc / rev.) |
| Maximum Differential Pressure Carbon Bearings | 150 psig (10 bar)                       |
| Maximum Allowable Working Pressure            | 200 psig (14 bar, 1034)                 |
| Maximum Speed                                 | 1750 rpm                                |
| Maximum Capacity at 0 psig                    | 1.3 US gpm (4.9 LPM)                    |
| Maximum Viscosity                             | 10,000 cps                              |
| Maximum Fluid Temperature                     | *150° F (66° C)                         |
| Fluid pH Range                                | 0-14                                    |
| Gear Type                                     | External Spur Gear                      |
| Bearing Type                                  | Sleeve Bearing Integral Wear Plate      |
| Motor Frame Sizes - NEMA                      | 56C and 143/145TC                       |
| Motor Frame Sizes - IEC                       | 63, 80 B3/B14 Face                      |

\*200° F (93° C) with derated pressures

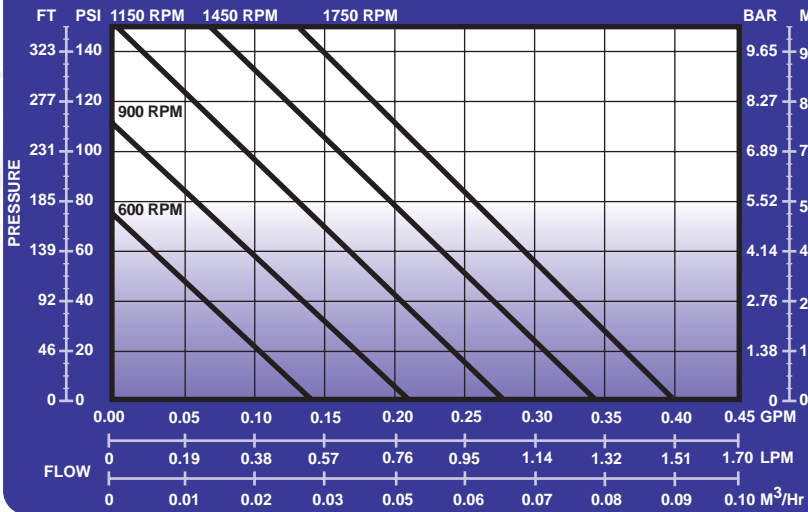


# Eclipse Series 2



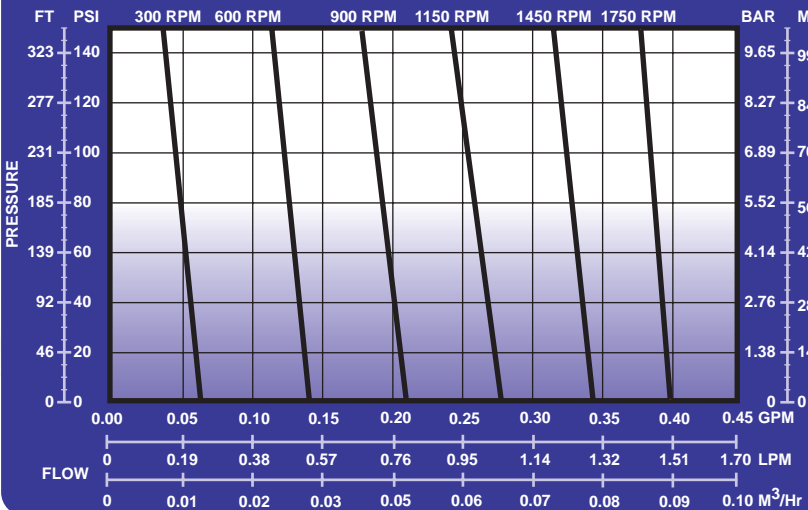
## Eclipse 2

Fluid Viscosity: 1 CPS



## Eclipse 2

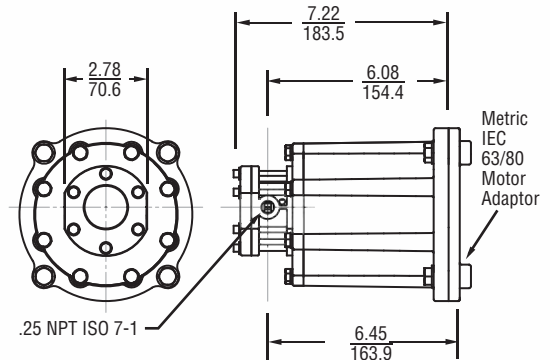
Fluid Viscosity: 100 CPS



## General Specifications

|                                    |   |
|------------------------------------|---|
| Port Size and Type                 | 1/4 inch FNPT or ISO 7-1                |
| Direction of Rotation              | Bi-directional                          |
| Theoretical Displacement           | 0.033 US gal / 100 rev. (1.2 cc / rev.) |
| Maximum Differential Pressure      | 150 psig (10 bar)                       |
| Maximum Allowable Working Pressure | 200 psig (14 bar)                       |
| Maximum Speed                      | 1750 rpm                                |
| Maximum Capacity at 0 psig         | 0.4 US gpm (1.5 LPM)                    |
| Maximum Viscosity                  | 5,000 cps                               |
| Maximum Fluid Temperature          | *150° F (66° C)                         |
| Fluid pH Range                     | 0-14                                    |
| Gear Type                          | External Spur Gear                      |
| Bearing Type                       | Sleeve Bearing<br>Integral Wear Plate   |
| Motor Frame Sizes - NEMA           | 56C                                     |
| Motor Frame Sizes - Flange IEC     | 63, 80<br>B3/B14 Face                   |

\*200° F (93° C) with derated pressures



# MPC VECTOR

## Automatic flow control for any chemical feed pump



The MPC Vector can be remote mounted on a wall near the installed equipment at a convenient height. The operator can remove the hand-held keypad, making adjustments while in a comfortable and upright position.

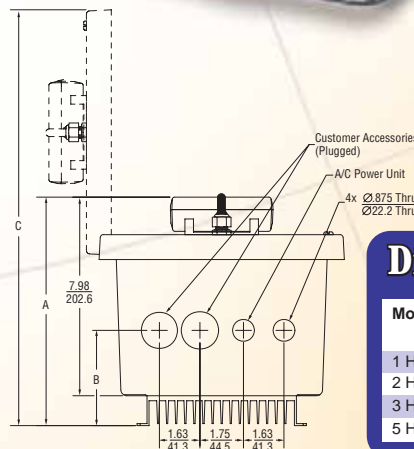
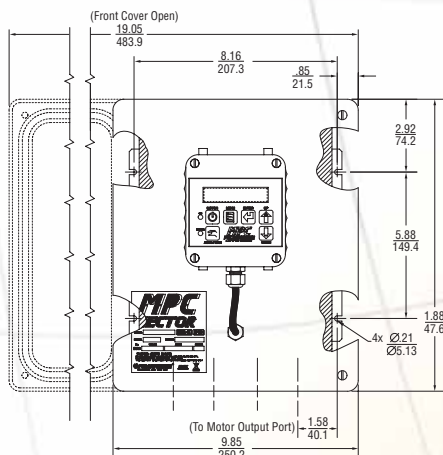


The MPC Vector is a microprocessor based motor speed control device, for use with all pump technologies and has been designed for simplicity, yet has many advanced features that allow a wide variety of environments and applications. This product is not just a variable speed drive. It is a state of the art multifunctional controller. The key features below will reveal the unique functionality of this device.

- Designed with safety and ergonomics in mind
- NEMA 4X (IP56) rating on the control and the handheld keypad enclosures
- Detachable handheld keypad with 6 feet (1.8m) of cable as standard
- Handheld keypad can be mounted up to 1000 feet (304 m) from the enclosure
- Motor on/off control on handheld keypad with high visibility red button
- Uses a state of the art sensorless vector type drive
- Infinite turndown with the appropriate motor, for a wide range of flow control
- Input, output processor (4-20 mA and digital)
- PID loop for closed loop flow control



- Handheld Keypad Displays
  - Flow: GPH, LPH, GPM, LPM
  - Speed: RPM
- **PulsaGuard Technology**, ensures that the pump will not run-dry
- Security code to lock out unauthorized users
- UL and CSA Approval pending, CE Approved



### Dimensional Specifications

| Model | A     |       | B     |       | C     |       |
|-------|-------|-------|-------|-------|-------|-------|
|       | (in.) | (mm)  | (in.) | (mm)  | (in.) | (mm)  |
| 1 HP  | 9.50  | 241.3 | 4.16  | 105.7 | 18.53 | 470.7 |
| 2 HP  | 9.50  | 241.3 | 4.16  | 105.7 | 18.53 | 470.7 |
| 3 HP  | 9.82  | 249.5 | 4.47  | 113.5 | 18.85 | 478.9 |
| 5 HP  | 10.86 | 275.9 | 5.51  | 140.0 | 19.89 | 505.3 |

1 and 2 HP models come with heat sink adaptor bracket to make installation easier. The dimensions shown are with these brackets installed on the unit.

## Eclipse Model Number String

|  |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|
| <b>Model</b><br>Position 1                                   | E   | - | - | - | - | - | - | - |
| <b>Size</b><br>Position 2,3                                  | 02, 05, 12, 25, 75  |   |   |   |   |   |   |   |
| <b>Base Material</b><br><b>Connection Type</b><br>Position 4 | E-ETFE, FNPT, B-ETFE, ISO 7-1, F-ETFE, Flange, P-PPL, Flange  |   |   |   |   |   |   |   |
| <b>Bearings</b><br>Position 5                                | L-Carbon, B-Silicon Carbide   |   |   |   |   |   |   |   |
| <b>O-Rings</b><br>Position 6                                 | V-Viton, E-EPDM   |   |   |   |   |   |   |   |
| <b>Mounting Arrangements</b><br>Position 7                   | F-NEMA 56C, O-NEMA 143TC-184C, R-NEMA 182TC-184TC<br>H-IEC B34 63, K-IEC B34 80, P-IEC B14 100/112<br>Y-With Drive Magnet |   |   |   |   |   |   |   |
| <b>Options</b><br>Positions 8, 9                             | A-Bearing Flush Ports, N-Without Drive Magnet, X-No Options   |   |   |   |   |   |   |   |

## MPC-Vector Model Number String

|                                   |    |  |  |  |
|-----------------------------------|----|--|--|--|
| <b>Model</b><br>Position 1 & 2    | EP | Product  |  |  |
| <b>Enclosure</b><br>Position 3    | C  | NEMA 4 (IP56)  |  |  |
| <b>HP / Voltage</b><br>Position 4 | A  | Fractional to 1 HP (0.75 kW) - 208-230 VAC, 1 or 3 phase, 50/60 Hz |  |  |
|                                   | B  | 2 HP (1.5 kW) - 208-230 VAC, 1 or 3 phase, 50/60 Hz                |  |  |
|                                   | C  | 3 HP (2.2 kW) - 208-230 VAC, 1 or 3 phase, 50/60 Hz                |  |  |
|                                   | D  | 5 HP (3.75 kW) - 208-230 VAC, 3 phase ONLY, 50/60 Hz               |  |  |
| <b>Language</b><br>Position 5     | X  | English  |  |  |
|                                   | A  | German   |  |  |
|                                   | B  | French   |  |  |
|                                   | C  | Spanish  |  |  |
|                                   | D  | Dutch  |  |  |

## Technical Specifications

|                                  |   |
|----------------------------------|---|
| <b>Analog Inputs</b>             | (Two) 4-20 mA, Control and Flow meter feedback  |
| <b>Analog Outputs</b>            | (One) 4-20 mA, Flow indication  |
| <b>Digital Inputs</b>            | (Two), Remote On/Off, Tank level, Leak detection or Flow verification   |
| <b>Digital Outputs</b>           | (Three), Auto/Manual, On/Off status, Trigger relay or Alarm   |
| <b>Rated Ambient Temperature</b> | 32 - 104° F (0 - 40° C)   |
| <b>Flow Control (Turndown)</b>   | Is dependent upon: <ul style="list-style-type: none"> <li>• Use of instrumentation (user supplied flow metering device)</li> <li>• Open or Closed-loop system</li> <li>• Process variables</li> <li>• Operating pressure</li> <li>• Fluid viscosity</li> <li>• Motor rating and turndown</li> </ul> |

Reliable  
Simple  
Intuitive



### Pressure Relief Valves

Pressure relief valves (PRV) are used to protect the pump and pumping system from over-pressurization damage as the result of a closed or blocked discharge.



### Engineered Systems

Pulsafeeder offers combined process control and mechanical expertise through our chemical injection and delivery systems capabilities.

To contact the nearest Pulsafeeder Global Sales Office, visit us on the web at [www.pulsa.com](http://www.pulsa.com)



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