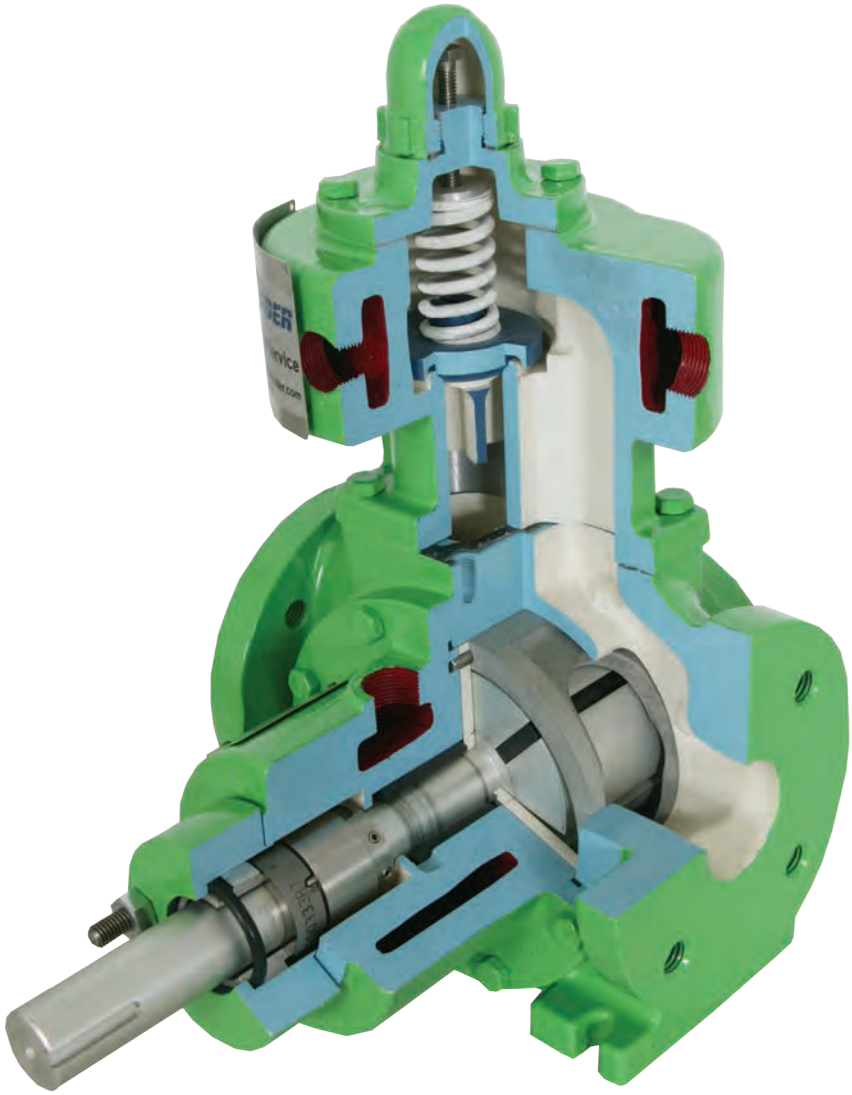
PULSAFEEDER®

An IDEX Water & Wastewater Business

IDEX

pulsafeeder.com



FOSTER®

Sliding Vane Pump

Pulsafeeder Technology

Since 1936, Pulsafeeder has been the global leader in fluid handling technology and innovation in chemical dosing. Pulsafeeder has built a foundation of success with thousands of installations in fluid handling applications. Our extensive product breadth enables us to provide the convenience and efficiency of single-source solutions across various industries.

Foster Sliding Vane Pumps

Foster pumps have been an essential component of many industries since its inception in 1845. Heavily relied upon for its durability, Foster outlasts its competitors in some of the harshest pumping environments imaginable. Available in both four vane and a six vane options, Foster's capacity for fluid handling is incomparable. From water to tar, Foster has the stamina to power through any job and be ready for your next application.

Product Specifications

- Flows to 1000 gpm (3785 lpm)
- Viscosities from 7500 to 200,000 SSU
- Temperature ranges to 450°F (427°C)
- Differential pressures to 250 psi (10 bar)

Materials of Construction

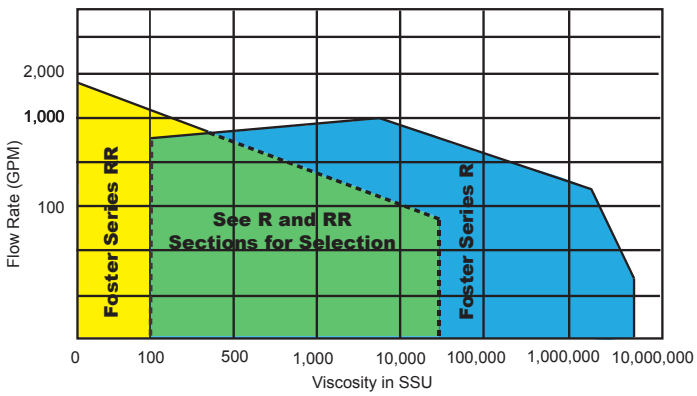
- Cast or ductile iron housing, liner, vanes, end plates, internal journal bearings, external flanged ball/roller bearings
- Cast iron flange rating 125 lbs
- Ductile iron flange rating 150 lbs
- Flanged connections are drilled and tapped (MSS)
- Chrome hardened liner option
- Carbon steel rotary and shaft
- PTFE packing; mechanical seals optional
- Re-greasable lantern ring design
- Epoxy coated finish

Typical Applications

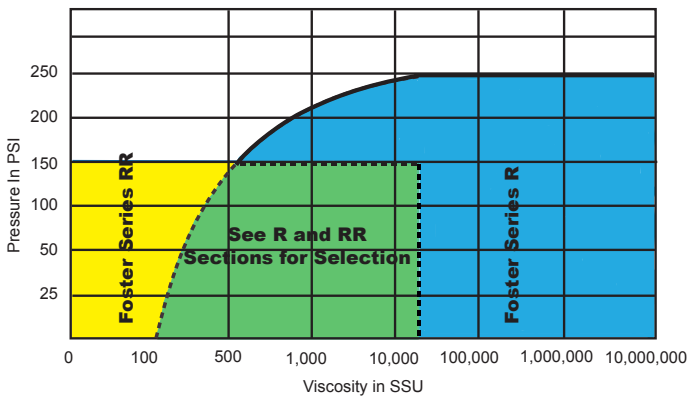
- Adhesives and Resins
- Sludge
- Coal Tar
- Polymers
- Peanut Butter
- Chocolate
- Waxes
- Many More

Viscosity Curves

Flow Rate/Viscosity-General Performance

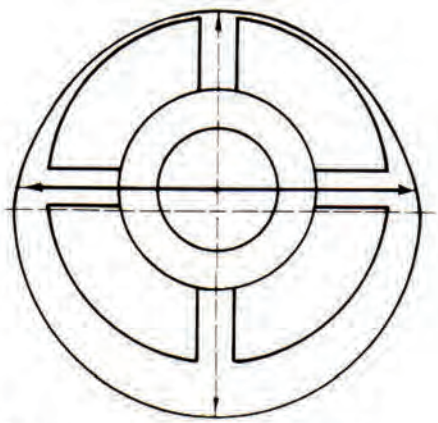


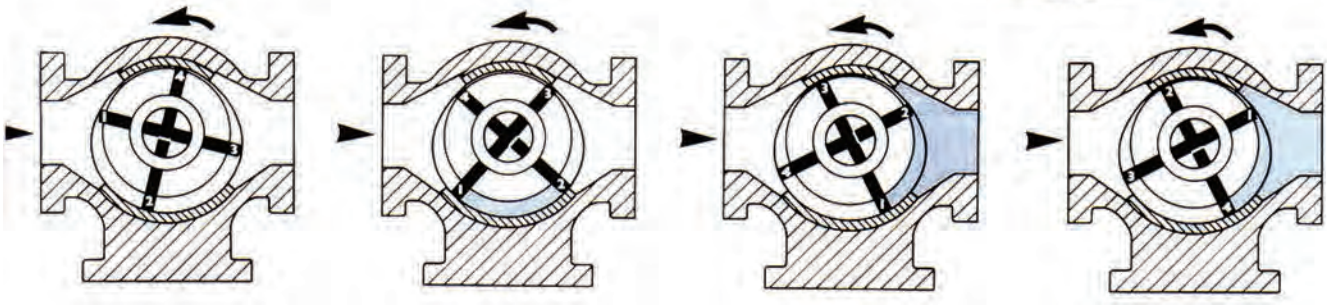
Pressure/Viscoity- General Performance



Sliding Vane Technology

Foster is fully inline serviceable with a front pull out design so you never need to disconnect the pump from your piping for service.





A
The eccentric rotor forms a seal between rotor and liner at the twelve o'clock position, a crescent-shaped liquid chamber around the rest of the rotor. As the rotor turns, section 1-2 (between vanes 1 and 2) expands and fills with the liquid from the pump inlet.

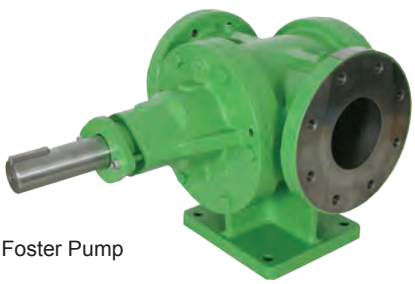
B
Further rotation expands sections 1-2 to maximum and seals in its contents for transfer to the pump outlet. Section 4-1 now expands and fills to maintain steady flow.

C
Section 1-2 opens to the pump outlet and contracts to discharge liquid. Section 4-1 approaches maximum volume, while section 3-4 expands and fills.

D
Section 4-1 now contracts and discharges. Section 1-2 has fully contracted and discharged all its contents. Continuing the pulse-free pumping action, section 3-4 approaches maximum volume and section 2-3 expands and fills.

FOSTER® CONFIGURATIONS

The Foster is available in a four vane or six vane configuration. The four vane is most effective when pumping medium to high viscosity fluids, as it offers a larger chamber for liquid to enter into. The six vane pump is recommended for low to medium viscosities.

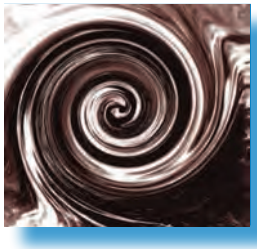


Four Vane Foster Pump

Six Vane Foster Pump with Jacket

Features and Benefits

FOSTER®

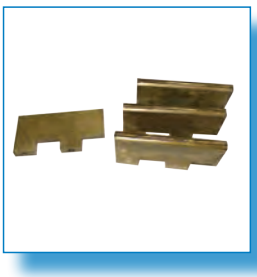


Can Handle a Variety of Fluids

- Extensive material availability provides versatility for pumping a variety of chemicals
- Four or six vane Pumps provide ample space for efficient fluid transfer
- Viscosities from 1600 cPS to 45,200 cPS

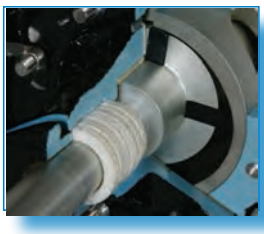
Efficient Vane and Liner Designs

- Lowers mechanical and hydraulic friction losses
- Curtails sheer and liquid slip losses
- Lowers pump speeds
- Increases volumetric efficiency



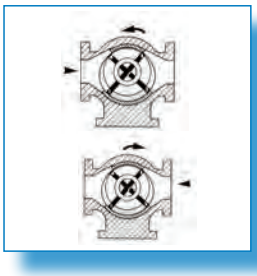
Non-Metal or Metal Vanes

- Wide choice of materials available
- Dynamically or mechanically actuated
- Vanes self-adjust for wear
- Easily replaceable



Shaft Sealing Options

- Adjustable packing standard
- Lantern ring
- Single or double mechanical seals



Self-Priming* and Bi-directional

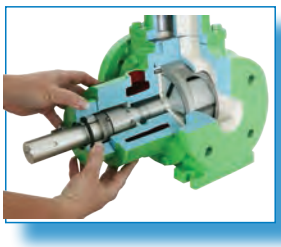
- Each revolution of the pump rotor discharges a positive predetermined volume of fluid
- As the rotor turns, fluid is trapped between the adjacent vanes and carried through the pump and is discharged
- Pumps are bi-directional for ease of installation

* After initial priming (wetted)

Features and Benefits

Pressure Limiting Valve Option

- Convertible for internal bypass
- Safest, most conservatively sized for flow rate and viscosity
- Return to source pressure relief valve

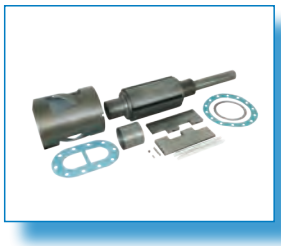


Completely Inline Serviceable

- Front pull out design for easy access
- Tackle routine maintenance without removing your piping
- No specialized tools required

Internal Bearings

- Selected based on the application
- Internal sleeve bearings available in metal or self-lubricated non-metal



Easily Replaceable Components

- Vanes, liner, bearings, end plates, and rotor shaft assembly are easy to replace and maintain
- Parts are interchangeable between type and size
- Minimum number of pump components
- Optional chrome hardened liner and rotor journals available for abrasives

Abrasive Resistant

- Hardened wearplates
- Bearings are lubricated and isolated from process liquid
- Liners and endplates protect body and heads from wear

Pump Options

Full or Partially Jacketed Pumps

Jackets help to regulate a temperature of a pumped fluid. In high viscosity liquids, a jacketed pump assists in keeping the liquid fluid enough to pass through the pump. In food production this can be especially important. On the low viscosity end, jackets provide the added assurance that highly flammable liquids such as petroleum and biodiesel products are kept at a constant temperature during the transfer process.

Oversized Porting & Chrome Hardened Hardware

Pulsafeeder can engineer any Foster pump to meet specific applications. For abrasive situations, chrome hardened liners and rotor journals are available.

External Anti-Friction Roller or Ball Bearing Options

External anti-friction rollers or ball bearings have the inherit benefit of being versatile, having low friction and the ability to be packed which reduces the need for constant lubrication. They are grease lubricated and are isolated from the pump by mechanical seals.

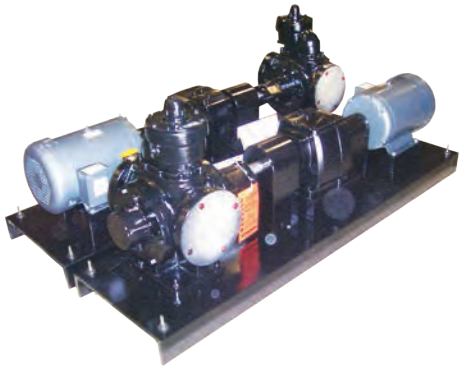
Pressure Limiting Valve

Convertible for internal bypass. It is the safest, most conservatively sized for flow rate and viscosity. Oversized valves are available for higher viscosities.

Sealing and Packing Options

Your choice of sealing methods include:

- adjustable packing
- single or double adjustable seals
- Lantern Ring
- Bellows type mechanical seals



Base Mounting

Foster pumps can be mounted directly to a base for easy installation and correct alignment. Bases provide a steady, stable surface and assure that all components and coupled correctly.

Installations

Vista Alegre Sugar Mill, Brazil

Magma processing at Raízen Caarapó, Brazil

Sugar processing at Usina da Pedra Plant, Brazil

Foster pumps are used extensively in the process of sugar production and ethanol processing. The process of converting sugar cane into usable sugar and ethanol is extremely abrasive. The pumps run 24 hours a day for seven to nine months and at the end of a sugaring season, its not uncommon for the average pump to have to be completely replaced. The Foster however is not the average pump. At Raizen, a major sugar and ethanol company in Brazil, Foster pumps were installed for the 2009 sugaring season. Two sugaring seasons later they are still used in production. While other manufacturers tout their durability, Pulsafeeder's Foster pump delivers on that promise.

"The Foster Pump is robust, reliable, and installs easily. We like it for its ease in operation and maintenance, and it comes in at a reasonable price."

-Raízen worker

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GENUINE PARTS

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