

## Fluid Transfer Solutions

High-performance 3-inch fluid transfer systems for stationary, mobile, and high vapor pressure applications



ENGINEERING YOUR SUCCESS.

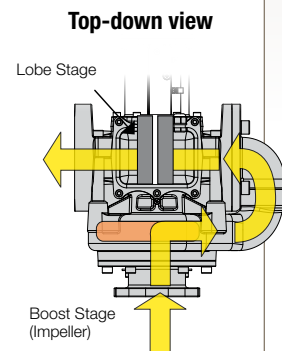
# A look inside advanced fluid transfer

## THE NEXT GENERATION: FLUID TRANSFER SOLUTIONS

Parker Hannifin Corporation, the global leader in motion and control technologies, introduces its FTS-300 series of fluid transfer solutions. The new pump line combines advanced engineering and manufacturing capabilities to deliver a rugged pumping solution for stationary, mobile, and high vapor-pressure fluid applications.

### Patent-pending, two-stage design

Close-coupled AC motor with an SAE spline shaft, the pump's first stage centrifugal impeller provides an effective boost to the suction capability of the second-stage positive displacement lobe pump. This design allows the FTS-300 to resist cavitation while delivering high volume even when pumping fluids with high vapor pressure.



The FTS-300 Fluid Transfer System is a high-performance 3-inch (76 mm) positive displacement lobe pump with an inlet boosting centrifugal impeller, transferring fluids up to 310 gpm (1,194 lpm) at 80 psi (552 kPa)

- **Dry run capable:** Pumping elements and material choices allow for continuous dry run between wetted pumping cycles.
- **Reversible flow:** Can be operated bi-directionally, benefiting from the centrifugal boost only in the “forward” flow direction.
- **Self-priming:** Due to its positive displacement design, the high-suction FTS-300 will quickly self prime and resist vapor lock.
- **Cavitation resistant:** For greater durability, longer life
- **Small footprint:** 40% lighter and shorter than competitive pumps
- **AC direct-driven motor:** UL certified, moisture and dust proof (IP 65 rating, 24 HP)

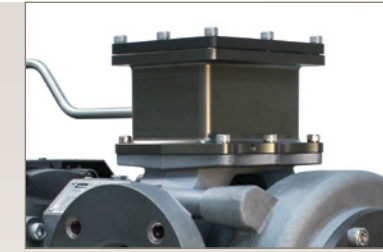
### 1 TRI-LOBE ROTORS AND SHAFTS

- Highly efficient design maximizes fluid transfer rate, and enables the pump to dry run without sustaining damage.
- Engineered materials and coatings for long life
- Compatible with a wide range of fluids
- Spring-loaded wiper blade seals ensure high volumetric efficiency
- Through-hardened stainless steel shafts for high durability

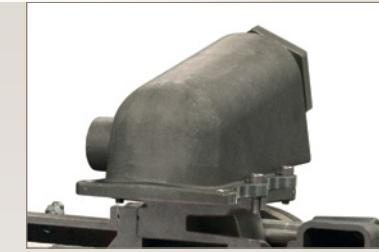
### 2 IMPELLER

- Boosts inlet pressure to reduce cavitation and operate efficiently and reliably at high RPM or altitudes without performance issues.
- Thrust-balanced design minimizes wear

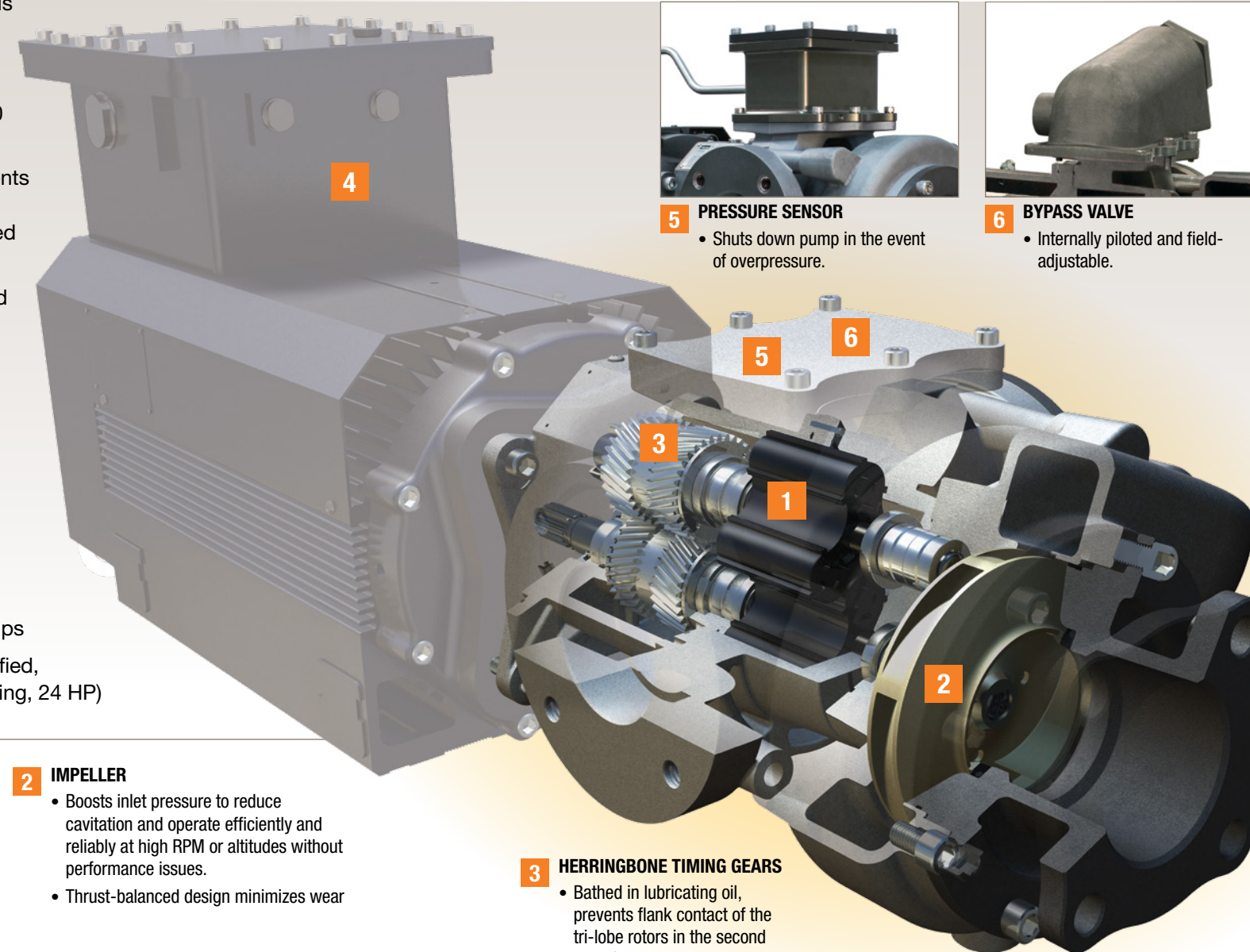
## OPTIONS



- ### 5 PRESSURE SENSOR
- Shuts down pump in the event of overpressure.



- ### 6 BYPASS VALVE
- Internally piloted and field-adjustable.



### 3 HERRINGBONE TIMING GEARS

- Bathed in lubricating oil, prevents flank contact of the tri-lobe rotors in the second pumping stage
- High contact ratios for smooth, low-noise operation
- Heat-treated high-strength alloy steel improves torque carrying capability and durability
- Eliminate thrust loads common in helical gears

### 4 MOTOR CONTROL UNIT

- Protects system from adverse operating conditions

## INTEGRATED PROTECTION FOR LONGER LIFE

Parker's Fluid Transfer System includes integrated protection options such as a pressure sensor or by-pass valve to prevent overpressure and over temperature. The rugged motor's built-in thermal protection circuit averts over temperature.

**Motor protection.** An integrated intelligent motor control unit (MCU) with an independent power source is continually operating independent of the system to protect against adverse operating conditions. This allows for shut-down of current to the motor and shut-down of the pump based on independent specifications.

**Pressure sensor.** The pressure sensor option includes a transducer connected to the MCU to shut down the pump in the event of an overpressure condition. The cutoff pressure options are settable at discharge pressures of 60, 70, 80, and 100 PSIG.

**Bypass valve.** The bypass valve option includes an internally piloted, field-adjustable bypass valve. This valve will begin to open when the set pressure is reached, recirculating pumped fluid within the pump housing. The bypass valve may be fitted with a temperature sensor connected to the MCU for pump shut down in an over temperature condition. The cutoff temperature set point is settable at intervals of 5°C between 80°C and 155°C.

## APPLICATIONS



Crude oil



Refining



Fuels and fuel oil



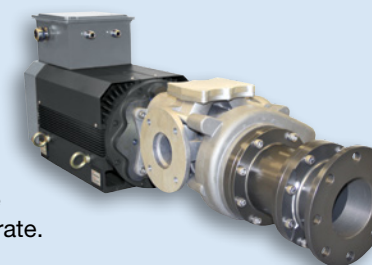
Bulk transfer



Chemical processing

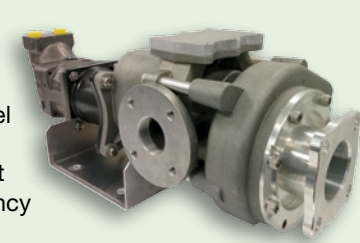
## AC DIRECT-DRIVE MOTOR RVP SYSTEM

A fluid transfer system designed for high vapor-pressure fluids including light crude and those with high gas content (up to RVP 16). Resists vapor lock while maintaining a high flow rate.



## HYDRAULIC MOTOR- OR PTO-DRIVEN SYSTEM

Engineered for truck-mounted applications to transfer crude or refined oil, water, and refined petroleum products such as diesel and jet fuels. The pump's light weight and small footprint make it ideal for mobile use where efficiency and reliability are critical.



## Operating Specifications

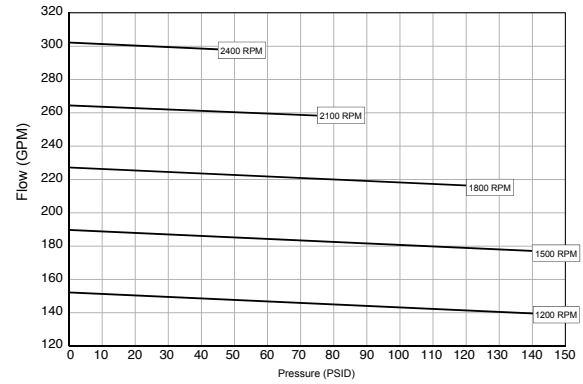
Condition	Rating	Units
Maximum operating temperature (non-volatile fluids) <sup>1</sup>	55 (131)	°C (°F)
Maximum inlet pressure	80	PSIG
Maximum pressure rise, Direction #1 - Forward	140	PSID
Maximum pressure rise, Direction #2 - Reverse	120	PSID
Rated speed	1800 (60)	RPM (Hz)
Rated flow at 80 PSIG discharge, 1800 RPM	220	GPM
Maximum continuous duty <sup>2</sup>	2100 (70)	RPM (Hz)
Maximum intermittent duty <sup>2</sup>	2400 (85)	RPM (Hz)
Maximum speed during dry run	1500 (50)	RPM (Hz)
Maximum dry run time per cycle <sup>3</sup>	8	hours
Maximum sound pressure level at 3 feet, 2100 RPM	100	dB
Inlet filtration (recommended)	300	micron

- 1 – Maximum fluid temperature is dependent on the application and fluid characteristics
- 2 – Maximum speed is dependent on the application, fluid characteristics, discharge pressure, and motor (frequency specifications are the electrical frequency of the motor)
- 3 – Time per cycle is defined as the duration of the dry run between cycles when the pump is wetted with the pumping fluid

## 24 HP Motor Rating (VFD/Soft Starter Required)

Property	Value	Units
Power Rating	17.9 (24)	kW (hp)
Voltage (wye)	460	VAC
Current (wye)	30	A
Inductance	3.12	mH
Resistance	0.29	Ω
Rated Frequency	60	Hz
Rated Speed	1800	RPM
Motor Slip	38	RPM
Rated Torque	71 (96.26)	ft.lbs (N.m)
Power Factor	0.83	
Insulation	Class F	
Ingress Protection	IP65	
Inverter Rated	Yes	
Required VFD/Soft Starter ramp time (from idle to rated speed)	5	sec

## Performance - 24 HP Motor



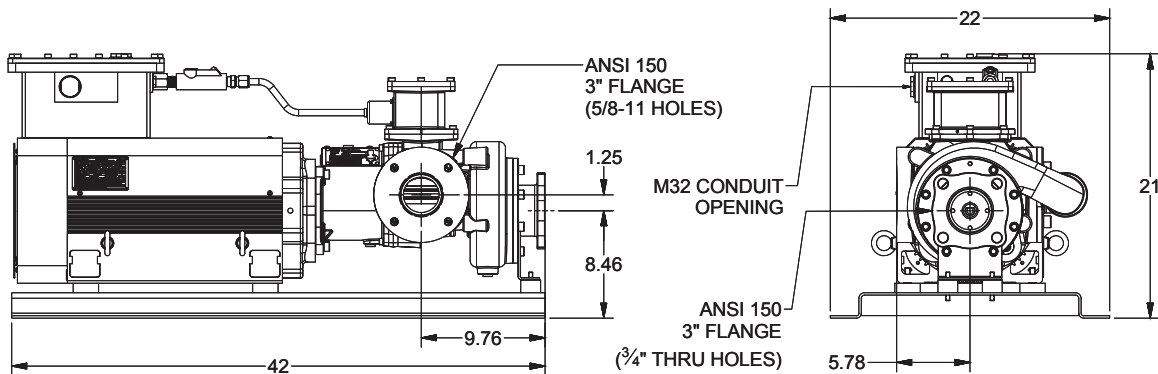
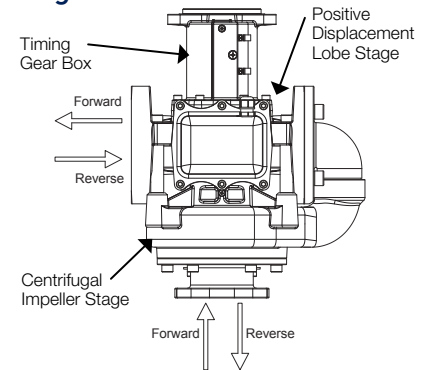
Rated flow based on forward operation, using calibration fluid at approximately 1.2 cSt viscosity, sea level, room temperature. Performance depends on application and fluid characteristics.

## Weight (Pounds)

Configuration	System*	Pump	Motor
FTS-300 w/24 HP	535	65	440

\*Includes base plate and all other system components.

## Pump-Flow Diagram



\*Dimensions are for reference only. Consult your product owner's manual for installation requirements.

Information subject to change without notice. For the most current information, contact Parker Application Support at (844) 695-9590 or [fts.support@parker.com](mailto:fts.support@parker.com).

