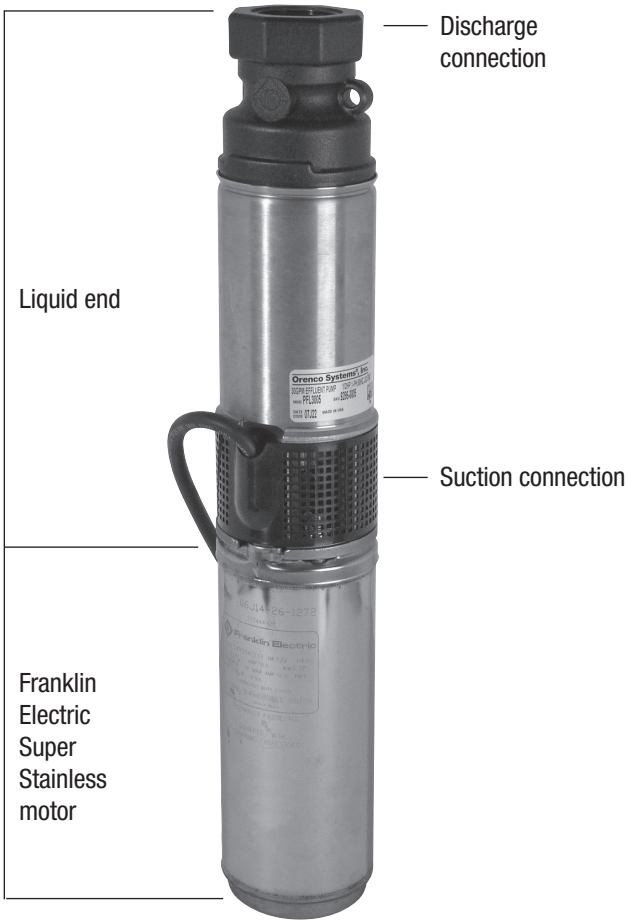
PF-Series 50Hz Effluent Pumps

Applications

Orenco's PF-Series 50Hz, 100mm (4in) Submersible Effluent Pumps are designed to transport screened effluent with low TSS counts from septic or dosing tanks. These pumps are engineered using lightweight, corrosion-resistant stainless steel and polymers and are field serviceable and repairable with common tools.

PF-Series pumps are used in a variety of applications, including pressurized drainfields, packed-bed filters, mounds, aerobic units, effluent irrigation, liquid-only (effluent) sewers, wetlands, lagoons, and more. These pumps are designed to be used with a Biotube® pump vault or after a secondary treatment system.



Powered by Franklin Electric

General

To specify this pump for your installation, require the following:

- Minimum 24-hour run-dry capability (liquid end) with no decline in pump life or performance
- 3mm (1/8in) bypass orifice to ensure flow recirculation for motor cooling and to prevent air binding
- 3mm (1/8in) mesh intake screen to limit solids
- Liquid-end repair kit availability for lower long-term ownership cost
- Franklin Electric TRI-SEAL™ floating impeller design on 0.6L/sec and 1.9L/sec (10gpm and 30gpm) models; floating stack design on 3.2L/sec and 4.7L/sec (50gpm and 75gpm) models
- Franklin Electric Super Stainless motor, rated for continuous use and frequent cycling, with hermetically sealed motor housing for moisture-free windings, and Kingsbury-type thrust bearing
- Thermal overload protection on 1-phase motors through 1.12kW (1.5hp), tripping at 95-105˚C (203-221˚F)
- Surge arresters on 1-phase and 220V, 3-phase motors
- Type SOOW 600V motor cable
- Torque lock availability for all pump models

Standard Models

See Specifications (beginning on page 2) for a list of standard pumps. For a complete list of available pumps, call Orenco.

Product Code Diagram

PF(50Hz) □ □ □ □ □ - □ - □

- Pump, PF Series, 50Hz model
- Nominal flow, L/sec (gpm):
  10 = 0.6 (10) 30 = 1.9 (30)
  50 = 3.2 (50) 75 = 4.7 (75)
- Kilowatts (hp):
  05 = 0.37 (0.5) 07 = 0.56 (0.75)
  10 = 0.75 (1) 15 = 1.12 (1.5)
  20 = 1.49 (2)
- Phase:
  1 = single-phase 3 = three-phase
- Voltage, nameplate:
  2 = 220 4 = 380
- Check valve:
  Blank = no internal check valve
  CV = internal check valve†
- Cord length, m (ft):
  Blank = 3 (10) 20 = 6 (20)*
  30 = 9 (30) 50 = 15 (50)
- CLK = ClickTight™ compatible

*6m cords are available only for single-phase pumps through 1.12kW
†Available with PF(50HZ)100512 only.

Not all product code configurations may be available as standard products.

Specifications

Pump Model	Design L/sec (gpm)	Kilowatts (hp)	Phase	Nameplate voltage	Actual voltage	Design flow amps	Max amps	Discharge size and material[1]	Length mm (in)	Min. liquid level mm (in)[2]	Weight kg (lb)[3]	Rated cycles per day
PF(50HZ)100512CV [7]	0.6 (10)	0.37 (0.50)	1	220	220-240	3.9	4.1	1 1/4in GFP	584 (23.0)	432 (17)	12 (26)	300
PF(50HZ)100532	0.6 (10)	0.37 (0.50)	3	220	220-240	1.8	1.8	1 1/4in GFP	584 (23.0)	432 (17)	12 (26)	300
PF(50HZ)100534	0.6 (10)	0.37 (0.50)	3	380	380-415	1.1	1.1	1 1/4in GFP	584 (23.0)	432 (17)	12 (26)	300
PF(50HZ)100712 [4,5,7]	0.6 (10)	0.56 (0.75)	1	220	220-240	6.2	6.2	1 1/4in GFP	658 (25.9)	432 (17)	14 (30)	300
PF(50HZ)100734 [4,5]	0.6 (10)	0.56 (0.75)	3	380	380-415	1.6	1.6	1 1/4in GFP	658 (25.9)	432 (17)	14 (30)	300
PF(50HZ)101512 [5,6]	0.6 (10)	1.12 (1.50)	1	220	220-240	10.5	11.4	1 1/4in SS	1003 (39.5)	559 (22)	21 (46)	300
PF(50HZ)300512 [7]	1.9 (30)	0.37 (0.50)	1	220	220-240	4.1	4.1	1 1/4in GFP	572 (22.5)	483 (19)	12 (26)	300
PF(50HZ)300532	1.9 (30)	0.37 (0.50)	3	220	220-240	1.8	1.8	1 1/4in GFP	572 (22.5)	483 (19)	12 (26)	300
PF(50HZ)300534	1.9 (30)	0.37 (0.50)	3	380	380-415	1.1	1.1	1 1/4in GFP	572 (22.5)	483 (19)	12 (26)	300
PF(50HZ)300712 [7]	1.9 (30)	0.56 (0.75)	1	220	220-240	6.1	6.1	1 1/4in GFP	630 (24.8)	483 (19)	13 (29)	300
PF(50HZ)301012 [7]	1.9 (30)	0.75 (1.00)	1	220	220-240	7.4	7.4	1 1/4in GFP	721 (28.4)	508 (20)	15 (32)	300
PF(50HZ)301512 [4,5]	1.9 (30)	1.12 (1.50)	1	220	220-240	9.3	9.3	1 1/4in GFP	899 (35.4)	610 (24)	18 (40)	300
PF(50HZ)500512 [7]	3.2 (50)	0.37 (0.50)	1	220	220-240	4.0	4.0	2in SS	516 (20.3)	635 (25)	13 (29)	300
PF(50HZ)500712 [7]	3.2 (50)	0.56 (0.75)	1	220	220-240	6.3	6.4	2in SS	602 (23.7)	635 (25)	14 (30)	300
PF(50HZ)501012 [7]	3.2 (50)	0.75 (1.00)	1	220	220-240	7.3	7.4	2in SS	686 (27.0)	660 (26)	16 (35)	300
PF(50HZ)501034	3.2 (50)	0.75 (1.00)	3	380	380-415	2.1	2.1	2in SS	686 (27.0)	660 (26)	16 (35)	300
PF(50HZ)501512	3.2 (50)	1.12 (1.50)	1	220	220-240	9.1	9.1	2in SS	826 (32.5)	762 (30)	19 (42)	300
PF(50HZ)751012 [7]	4.7 (75)	0.75 (1.00)	1	220	220-240	7.3	7.3	2in SS	762 (30.0)	686 (27)	15 (32)	300
PF(50HZ)751032	4.7 (75)	0.75 (1.00)	3	220	220-240	3.5	3.5	2in SS	762 (30.0)	686 (27)	14 (30)	300
PF(50HZ)751034	4.7 (75)	0.75 (1.00)	3	380	380-415	2.1	2.1	2in SS	762 (30.0)	686 (27)	14 (30)	300
PF(50HZ)752012	4.7 (75)	1.49 (2.00)	1	220	220-240	12.1	12.4	2in SS	1000 (39.4)	925 (36.4)	19.5 (43)	100
PF(50HZ)752034	4.7 (75)	1.49 (2.00)	3	380	380-415	4.0	4.0	2in SS	965 (38.0)	889 (35)	18.2 (40)	300

1. *GFP = glass-filled polypropylene; SS = stainless steel. The 1 1/4in NPT GFP discharge is 2 7/8in octagonal across flats; the 1 1/4in NPT SS discharge is 2 1/8in octagonal across flats; and the 2in NPT SS discharge is 2 7/8in hexagonal across flats. Discharge is NPT threaded receptacle-style port, US nominal size, to accommodate Orenco discharge hose and valve assemblies. Consult your Orenco distributor about fittings to connect hose and valve assemblies to metric-sized piping.*
2. *Minimum liquid level is for single pumps installed in an Orenco Biotube Pump Vault or Universal Flow Inducer. In other applications, minimum liquid level should be top of pump. Consult Orenco for more information.*
3. *Weight includes 3m (10ft) cord.*
4. *High-pressure discharge assembly required.*
5. *Do not use cam-lock option (Q) on discharge assembly.*
6. *Custom discharge assembly required for these pumps. Contact Orenco.*
7. *ClickTight compatible.*

Materials of Construction

Discharge	Glass-filled polypropylene or stainless steel
Discharge bearing	Engineered thermoplastic (PEEK)
Diffusers	Glass-filled PPO (SABIC's NORYL™ GFN3 resin)
Impellers	Celanese's Celcon® acetal copolymer on 0.6L/sec and 1.9L/sec models; 3.2L/sec impellers are NORYL GFN3 resin
Intake screen	Polypropylene
Suction connection	Stainless steel
Drive shaft	11mm (7/16in) hexagonal stainless steel, 300 series
Coupling	Sintered stainless steel, 300 series
Shell	Stainless steel, 300 series
Motor	Franklin Electric motor filled with deionized water and propylene glycol for constant lubrication. Stainless steel exterior.

Using a Pump Curve

A pump curve helps you determine the best pump for your system. Pump curves show the relationship between flow (L/sec or gpm) and pressure (total dynamic head or TDH), providing a graphical representation of a pump's optimal performance range. Pumps perform best at their nominal flow rate – the value, measured in L/sec, expressed by the first two numerals in an Orenco pump nomenclature. These graphs use solid lines to show the optimal pump operation range. Dashed lines indicate flow rates outside of the optimal range for each pump. For the most accurate pump specification, use Orenco's PumpSelect™ software.

Pump Curves