SUBMITTAL TRANSMITTAL

Project: SCITUATE POLICE DEPARTMENT
1315 CHOPMIST HILL RD

Date: 9/3/2019
A/E Project Number: 218850

Submittal No. 2

Resubmission ☐

TRANSMITTAL A

To (Contractor): _____ Date: _____

From (Subcontractor): _____ By: _____

Qty.	Reference / Number	Title / Description / Manufacturer	Spec. Section Title and Paragraph / Drawing Detail Reference
		ADVANTEX TREATMENT SYSTEM	2

- ☑ Submitted for review and approval
- ☐ Resubmitted for review and approval
- ☐ Complies with contract requirements
- ☐ Will be available to meet construction schedule
- ☐ A/E review time included in construction schedule
- ☐ Substitution involved - Substitution request attached
- ☐ If substitution involved, submission includes point-by-point comparative data or preliminary details
- ☐ Items included in submission will be ordered immediately upon receipt of approval

Other remarks on above submission: _____

☐ One copy retained by sender

TRANSMITTAL B

To (A/E): JOE CASALI Date: 9/3/2019

From (Contractor): SUGRUE & ASSOC. INC. By: REGAN AGHDAM

Date Rec'd by Contractor: _____ Date Trnsmt'd by Contractor: _____

- ☐ Approved
- ☐ Approved as noted
- ☐ Revise / Resubmit
- ☐ Rejected / Resubmit

Other remarks on above submission: _____

☐ One copy retained by sender

TRANSMITTAL C

To (Contractor): _____

From (A/E): _____ ☐ Ot

Date Rec'd by A/E: _____ Date

- ☐ Approved
- ☐ Approved as noted
- ☐ No action required
- ☐ Revise / Resubmit
- ☐ Rejected / Resubmit
- ☐ Approved as noted / Resubmit
- ☐ Not sub
- ☐ Provide
- ☐ Sepia c
- ☐ Point-by approva
- ☐ Submis

Other remarks on above submission: _____

TRANSMITTAL D

To (Subcontractor): _____

From (Contractor): _____

Date Rec'd by Contractor: _____ Date Trnsmt

Copies: ☐ Owner ☐ Consultants

☐ _____ ☐ _____ ☐ _____

JOE CASALI ENGINEERING INC.
300 POST ROAD
WARWICK, RI 02888
(401) 944-1300

- ☒ Approved
- ☐ Approved as Noted
- ☐ Rejected
- ☐ Revise and Resubmit
- ☐ Submit Specified Item
- ☐ Other

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings made during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component of. Contractor is responsible for: dimensions to be confirmed and correlated at the job site; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work of all trades; and for performing all work in a safe and satisfactory manner.

Date: 9/9/19 Reviewed By: WMLJR

Fiberglass Access Lids

Submittal Data Sheet

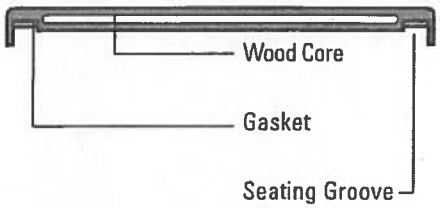
Orenco Systems® Incorporated
1-800-348-9843

Applications

Orenco Fiberglass Access Lids are used as riser covers, pump basin covers, and access port covers. Lids fit "Perma-Loc" and "Ultra-Rib" type pipe.

Actual View

Cutaway View



General

Orenco Fiberglass Access Lids are molded using fiberglass reinforced polyester resin encapsulating a wood core. The finish is green and the top surface is textured to provide a non-skid surface. (Gasketed lids include a polyurethane gasket, which is cast-in). Lid comes with either two or four 1/4" or 5/16" stainless steel flathead socket cap screws and a hex key wrench. The 1/4" screws are used with Orenco inserts and the 5/16" screws are used with bolt catches and with Orenco's Riser-to-Lid Adapter.

Standard Models

FL18G-4BU, FL21G, FL24G, FL24-4B, FL24G-4BU, FL30G, FL48G

Nomenclature

FL □□ □

- Indicates options:
  - G = gasket
  - V = vent
  - CF = carbon filter
  - I2 = 2" insulation
  - I4 = 4" insulation
  - 4B = 4 bolt hole lid with four 5/16" bolts
  - 4BU = 4 bolt hole lid with four 1/4" bolts
- Lid diameter: 18", 21", 24", 30", 48"
- Fiberglass lid

Specifications

Dimensions

	Model FL18	Model FL21	Model FL24	Model FL30	Model FL48
O.D. (in.)	20	22.5	25.5	32	53.875
Groove I.D. (in.)	17.5	20.75	23.5	29.5	47.5
Avg. Thickness (in.)	.625	1	1	1.25	1.5

Orenco Fiberglass Access Lids are capable of supporting a 2500 lb. wheel load; however, they are not designed or recommended for vehicular traffic.

Options Available

Feature	Model Code Adder	Optional/Standard
Air Vent	V	Optional
Carbon Filter*	CF	Optional
Lid Insulation	I2 or I4	Optional

*For more information on this option, refer to the Carbon Filters submittal data sheet, ESU-RLA-CF-1.

Materials of Construction:

Fiberglass Reinforced Polyester
Wood Core
Polyurethane Gasket

ADH100 Adhesive

Submittal
Data Sheet

Orenco Systems®
Incorporated
1-800-348-9843

Applications

ADH100 is used to bond PVC risers to Orenco grade rings and PRTA series tank adapters.

General

ADH100 is a single component opaque adhesive formulated to bond PVC risers to Orenco grade rings and PRTA series tank adapters. Upon curing, the seal created is both water and chemical resistant.

Standard Model

ADH100

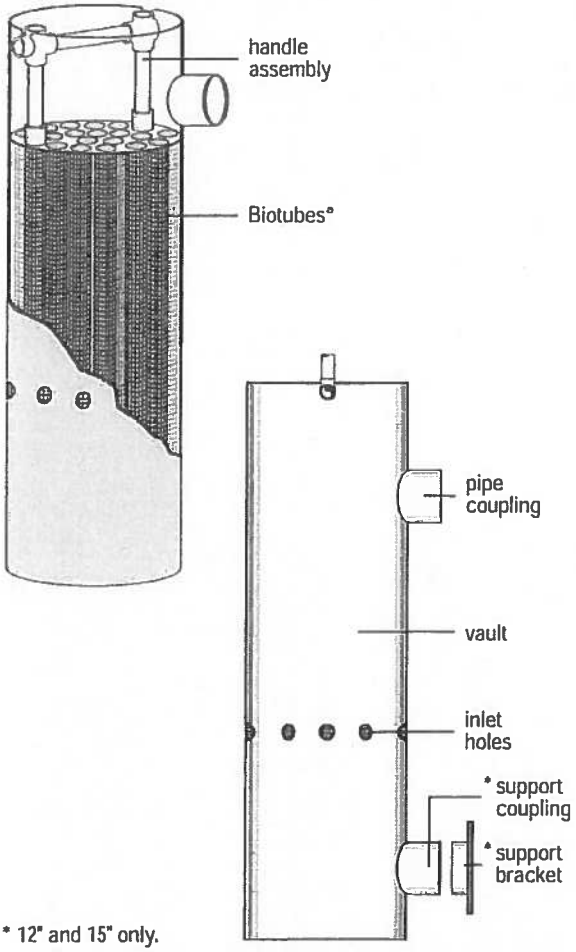
Specifications

Gel time is approximately 10 minutes; ultimate bond strength occurs after 24 - 72 hours at 70° - 85° F. Cure time is increased greatly with a decrease in temperature; not recommended for use in temperatures below 32° F.

Expected shelf life is approximately 5 years when stored at temperatures between 45° - 85° F.

8"-15" Diameter Biotube® Effluent Filters

Orenco Systems®
Incorporated
1-800-348-9843



* 12" and 15" only.

General

Orenco Biotube Effluent Filters (U.S. Patents No. 4439323 and 5492635) are used to improve the quality of effluent exiting a septic tank. The Biotube cartridge is removable for maintenance; the handle assembly snaps into the notches in the top of the vault and the handle can be extended for easy removal of the cartridge.

Standard Series

FT0854-36, FT1254-36, FT1554-36

Nomenclature

FT □ □□ □□ - □□ □

- Add codes for standard options:
  A = float bracket
  R = slide rail
  B = base inlet model
- Cartridge height, 36" standard
- Housing height, 54" standard
- Filter diameter (inches):
  08 = 8"
  12 = 12"
  15 = 15"
- P = 1/16" filtration
  Blank = 1/8" filtration
- Biotube effluent filter series

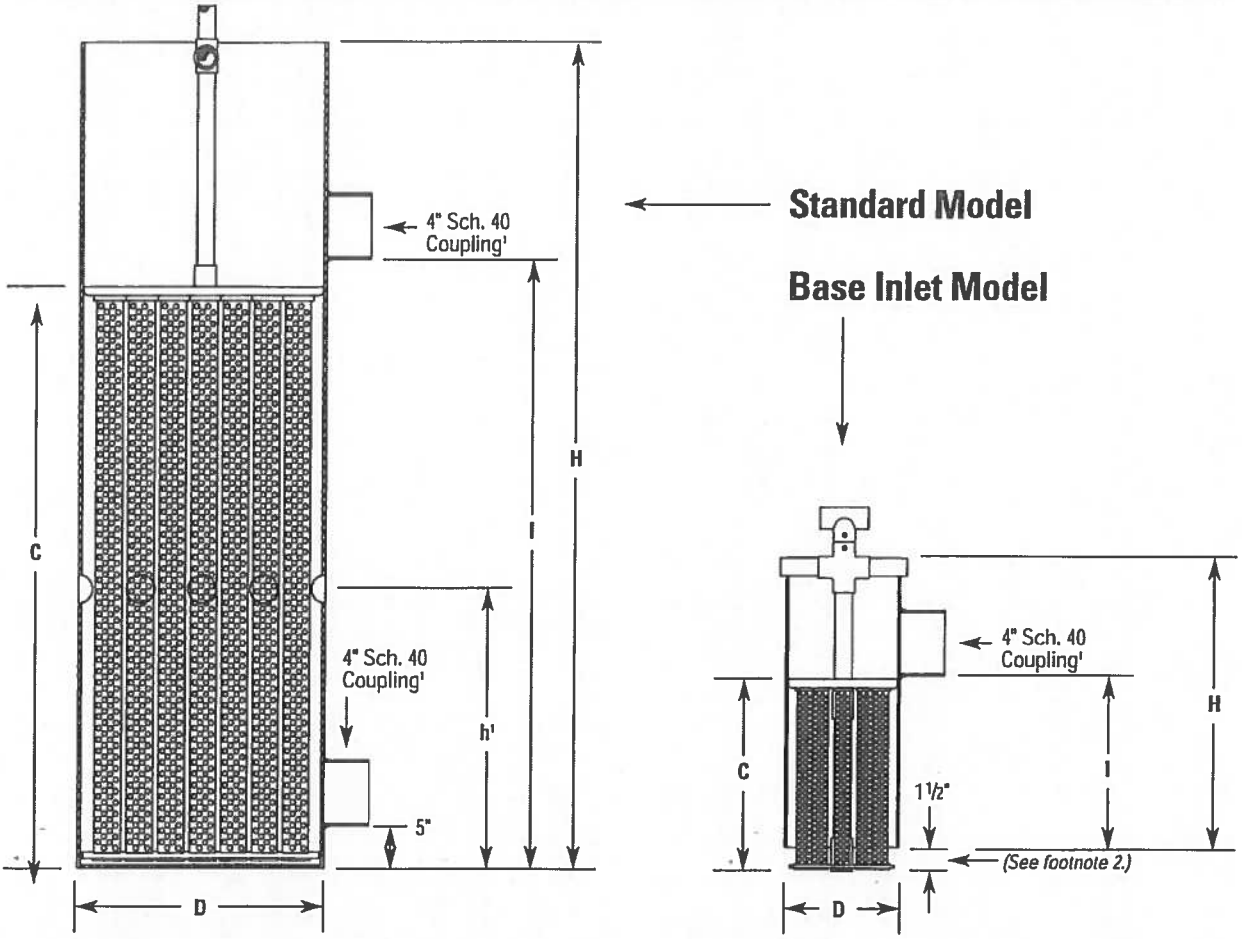
Specifications

Vault height and hole height vary upon system configuration. Optimum hole height is between 65% and 75% of the tank's minimum liquid level.

Materials of Construction:

Vault:	PVC
Biotube Cartridge:	Polypropylene and polyethylene
Pipe Coupling:	PVC
Handle Components:	PVC
Support Coupling and Bracket:	PVC

8"-15" Diameter Biotube® Effluent Filters (continued)



Dimensions

Model	FT0854-36	FT0822-14B	FT1254-36	FT1222-14B	FT1554-36
	FTP0854-36	FTP0822-14B	FTP1254-36	FTP1222-14B	FTP1554-36
D - Nominal Diameter (in.)	8	8	12	12	15
H - Vault Height (in.)	54	22	54	22	54
h - Influent Hole Height [3] (in.)	22	*n/a* [2]	22	*n/a* [3]	22
I - Invert-to-Base Height (in.)	38	13	38	13	38
C - Cartridge Height (in.)	36	14	36	14	36
(Individual) Biotube Diameter (in.)	1.125	1.125	1.125	1.125	1.125
Number of Biotubes per Cartridge	18	18	35	36	59
Filter Surface Area (sq.ft.)	15.8	6.2	30.7	12.4	51.7
Influent Hole Diameter (in.)	1.375	*n/a*	1.375	*n/a*	1.375
Number of Influent Holes	8	*n/a*	8	*n/a*	8

1. PVC slide tee substitutes coupling system when optional slide rail system is used. 12" and 15" only. Refer to Slide Rail submittal.
2. Influent enters filter through the annular space created between the bottom of the vault housing and the bottom of the filter cartridge.
3. Influent hole height may vary depending upon the configuration of the tank. Optimum hole height is between 65% and 75% of the minimum liquid level.

Universal Biotube® Pump Vaults

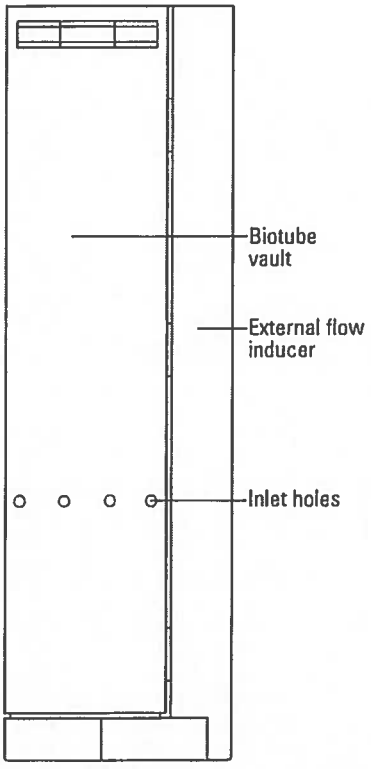
Submittal Data Sheet

Orenco Systems®
Incorporated
1-800-348-9843

For use with Orenco 4" Submersible Effluent Pumps

Applications

Orenco Biotube Pump Vaults are used to filter effluent being pumped from septic tanks or separate dosing tanks in STEP systems and onsite wastewater disposal systems. Removes two-thirds of suspended solids, on average. When pumping from a single compartment tank or two compartment septic tank where both compartments are simultaneously drawn down during pumping, the discharge rate should not exceed approximately 40 gpm. Higher flow rates require a water-tight baffle or multiple tank arrangement, typically with an effluent filter in the primary tank.



Side view

General

The Orenco Biotube Pump Vault includes a molded polyethylene housing with an internal filter cartridge constructed of polypropylene and PVC. Schedule 80 PVC support pipes are included to suspend the vault in tank openings. The filter cartridge can be removed without pulling the pump or vault. Effluent enters through inlet holes around the perimeter of the Biotube vault and flows through the Biotubes to the external flow inducer. The external flow inducer accommodates one or two pumps. Orenco Biotube Pump Vaults are covered by US patents #4439323 and 5492635.

Standard Models

PVU57-1819, PVU57-2419

Nomenclature

PVU □□-□□ □□

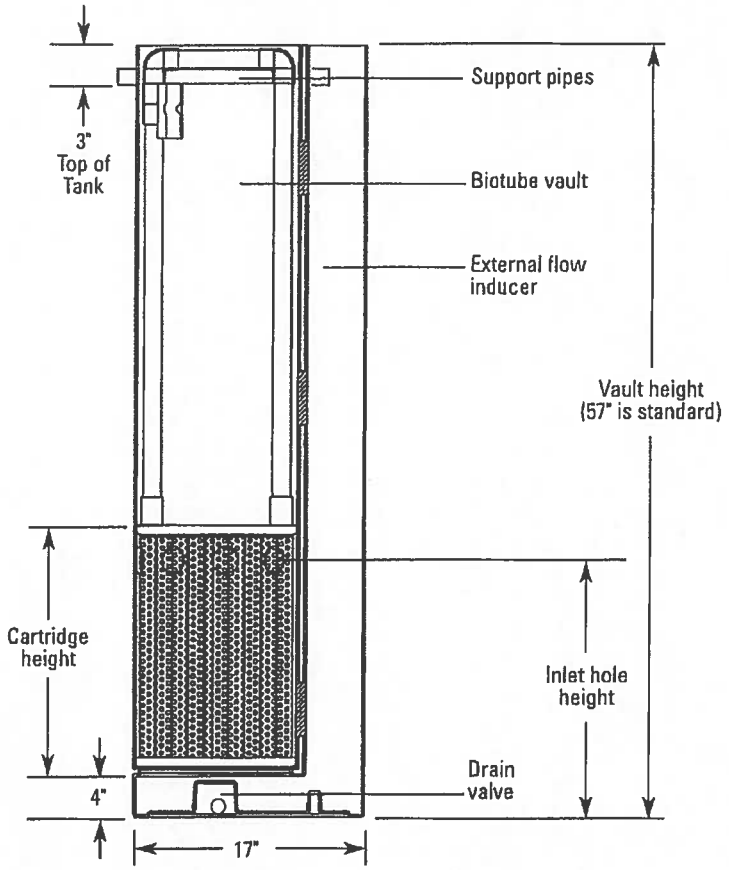
- PVU: Universal Pump Vault
- □□: Vault height: 57", 66"-96" in 6" increments*
- □□: Cartridge height = 18", 24" standard, 36"*
- □□: Indicates inlet hole height: (inches) 13", 19" standard

*36" cartridge height and vault height of 66"-96" in 6" inch increments available mid-2001

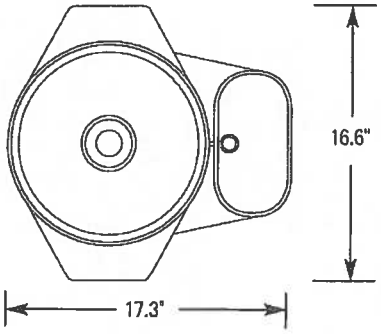
Tank Access and Riser Diameter

Biotube Series	Tank Access Dia. (Minimum)	Tank Access Dia. (Recommended)	Riser Dia. (Minimum)
PVU w/Simplex Pump	19"	20"	24"
PVU w/Duplex Pumps	19"	20"	30"

Universal Biotube® Pump Vaults (continued)



Side view



Top view

Specifications

Model	PVU57-1819	PVU57-2419
Vault Height (in.)	57	57
Cartridge Diameter (in.)	12	12
Biotube Cartridge Height (in.)	18	24
Biotube Mesh Opening (in.)	0.125	0.125
Biotube Nominal Open Area (%)	30	30
Filter Surface Area (sq.ft.)	15.5	20.6
Inlet Hole Height* (in.)	19	19
Float Setting Range (from top of tank, in.)	29	23

**May vary depdending upon the configuration of the tank.*

Materials of Construction:

Vaults:	Polyethylene
Biotube Cartridge:	Polypropylene/PVC
Float Stem:	Sch. 40 PVC
Support Pipe:	Sch. 80 PVC
Drain Valve:	Polypropylene

External Splice Box

Technical Data Sheet

Applications

Orenco's External Splice Box is engineered specifically for water and wastewater treatment systems and is especially suited for use in locations prone to high groundwater and other wet conditions. Its large volume and optional dividers make it useful for isolating high and low voltage wires from separate conduits or direct-bury cable.

Features/Specifications

To specify this splice box for your installation, require the following:

- Watertight for prolonged submergence per UL listing (Type 6P)
- Attachment external to access riser to allow inspection without opening lid of riser
- Optional divider for isolating high and low voltage wires from separate conduits or direct-bury cable
- Volume of 100 in.^{3} (1639 cm^3) for easy wiring access and to accommodate multiple wiring configurations
- Bottom entry, so conduit or direct-bury cable always remains below minimum burial depth
- Molded of UL (f1) rated plastic, resistant to cold and UV exposure, suitable for external applications

Standard Models

SBEX1, SBEX2, SBEX3, SBEX4
SBEX2-P, SBEX3-P

Nomenclature

SBEX□-□

- Blank = no divider plates; P = divider plates
- Number of cord grips: 1, 2, 3, 4
- External splice box

Orenco's External Splice Box has a UL Type 6P listing for prolonged submergence.

Orenco Systems®
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Changing the Way the World Does Wastewater®

www.orenco.com

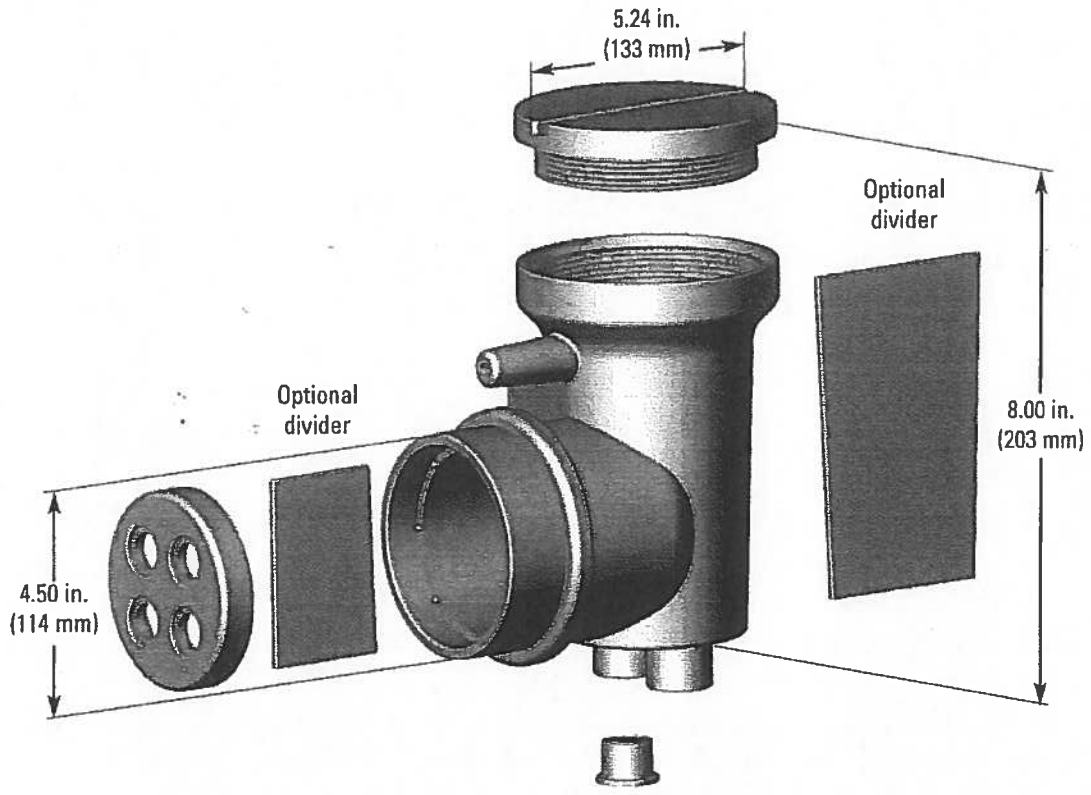
Physical Specifications

Volume of junction box	100 in.³ (1639 cm³)
Cord grips	4
Cord diameters accommodated	0.170–0.470 in. (4.3–11.9 mm)
Conduit hubs	2
Conduit sizes accommodated	3/4 in., 1 in. with a coupling, 1/2 in. with a fitting or bell end
Diameter of hole into riser	5 in. (127 mm) (hole-cutting template provided)

Can be supplied with divider plates that separate the splice box into two compartments, with two cord grips and one conduit hub in each compartment. Allows for two sets of wiring runs (Class 1 and either Class 2 or Class 3) for high and low voltage. Includes a PVC conduit plug for closing off the second conduit hub if not used.

Materials of Construction

Splice box	PVC alloy
Cord grip	Nylon
Cord grip plugs	EPDM rubber
O-rings	Buna rubber
Conduit hub	PVC per ASTM D-1784



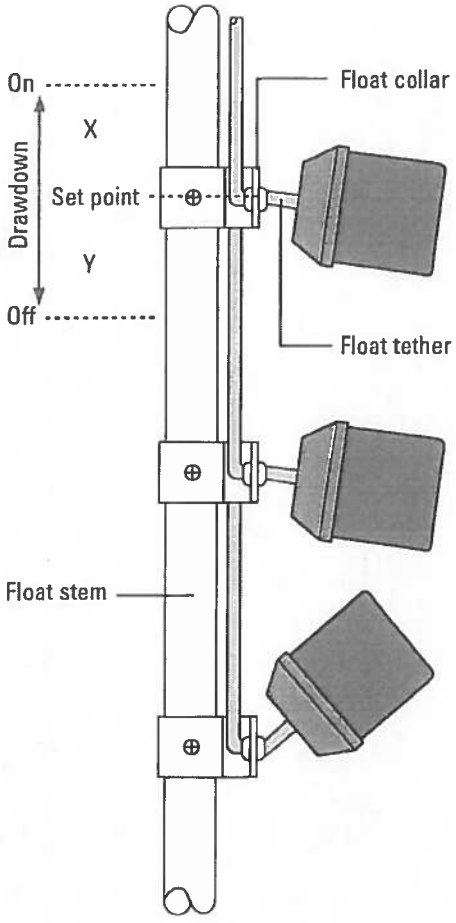
Submittal Data Sheet

Float Switch Assemblies

Orenco Systems® Incorporated
800-348-9843

Applications

Float switches are used to signal liquid level positions for alarm and pump control applications. Orenco float switch assemblies can be mounted in pump vaults, effluent screens, pump basins, and risers.



The "On" and "Off" positions describe normally open floats. For normally closed floats, the functions are reversed.

General

All models listed are UL listed and CSA certified for use in water or sewage. Model "A" floats are also CE certified for sale in European Union countries.

Floats are typically ordered in assemblies that include one or more floats mounted on a 1" PVC float stem. ABS float collars are used to provide secure mounting that is easily adjustable.

Non-mercury floats (models B, C, D, V and X) are used where components containing mercury are prohibited.

Standard Models

A, B, C, D, G, T, V, X

Nomenclature

MF□□□-□□□□

Cord length:
Blank = 10' cord (standard)
20 = 20' cord*
30 = 30' cord*

Application:
FS = field set
FTL = elbow-style for Biotube base-inlet filters only
PB = pump basin
V = pump vault (factory standard float settings)
VC = pump vault (specify float settings)

Stem length:
Blank = no stem, floats on collars only
19, 21, 27, 33, 37, 39, 45, 51, 57, 66 = stem length in inches
5, 11 = stem length in inches for elbow-style float brackets for effluent filters

Color code:
Blank = no color indicated
Y = yellow
G = green
B = blue
R = red
O = orange
E = gray
W = white
P = purple
YG = yellow-green
YP = yellow-purple

Float switch models:
A, B, C, D, G, T, V, X

Number of float switches (when using multiples of same float switch model)
Blank = no float collar

Mechanical or mercury float switch assembly

* Not standard for V, X floats. Special order required.

Examples

An MFAB indicates one "A" float and one "B" float, with the "B" float being lower on the float stem; an MF3AT indicates three "A" floats and a "T" float. (Note that floats are listed in order from the top of the float stem down).

Materials of Construction

Float housing	Impact-resistant, noncorrosive PVC plastic for use in liquids up to 140° F (60° C)
Float cord	Flexible 2-conductor (UL, CSA) SJOW; water-resistant (CPE); neoprene coating
Float collar	ABS

Float Switch Assemblies (continued)

Signal- and Motor-Rated Float Switch Matrix

Float	State[1]	Type[2]	IR[3]	Volts	Amps	hp	Tether	X	Y	Drawdown[4]
Signal-rated mercury floats[5] (for control switch applications)										
A Model[a]	Normally open	Mercury	Yes	n/a	n/a	n/a	2.00 in.	n/a	n/a	n/a
T Model	Normally closed	Mercury	Yes	n/a	n/a	n/a	2.00 in.	n/a	n/a	n/a
Signal-rated mechanical floats[5] (for control switch applications)										
V Model[a,b]	Normally open	Mechanical, small drawdown	Yes	n/a	n/a	n/a	2.00 in.	< 1 in.	< 1 in.	< 1 in.
X Model[b]	Normally closed	Mechanical, small drawdown	Yes	n/a	n/a	n/a	2.00 in.	< 1 in.	< 1 in.	< 1 in.
Motor-rated floats[5] (for pump switch applications)										
B Model[b]	Normally open	Mechanical	No	120V	13A	1/2 hp	2.00 in.	2.50 in.	1.50 in.	4.00 in.
				240V	13A	1 hp	3.00 in.	3.00 in.	1.50 in.	4.5 in.
							4.00 in.	3.25 in.	1.50 in.	4.75 in.
C Model[b]	Normally open	Mechanical	No	120V	13A	1/2 hp	2.00 in.	3.00 in.	2.50 in.	5.50 in.
				240V	15A	2 hp	3.00 in.	3.50 in.	3.00 in.	6.50 in.
							4.00 in.	4.00 in.	3.50 in.	7.50 in.
							5.00 in.	4.50 in.	4.00 in.	8.50 in.
							6.00 in.	5.25 in.	4.25 in.	9.50 in.
D Model[b]	Normally open	Mechanical	No	120V	15A	3/4 hp	2.00 in.	3.00 in.	2.50 in.	5.50 in.
				240V	15A	2 hp	3.00 in.	3.50 in.	3.00 in.	6.50 in.
							4.00 in.	4.00 in.	3.50 in.	7.50 in.
							5.00 in.	4.50 in.	4.00 in.	8.50 in.
							6.00 in.	5.25 in.	4.25 in.	9.50 in.
G Model	Normally open	Mercury	Yes	120V	15A	3/4 hp	2.00 in.	1.50 in.	3.00 in.	4.50 in.
				240V	15A	2 hp	3.00 in.	1.75 in.	3.00 in.	4.75 in.
							4.00 in.	2.00 in.	3.50 in.	5.50 in.

a. Suitable for use with VCOM and MVP.
b. Suitable for use with potable water.

Notes

[1] State: normally open or normally closed

The default state of a float — normally open or normally closed — refers to the contact positions in the float when the float is resting (down). Float switches have an internal contact. The terms "normally open" (N/O) and "normally closed" (N/C) refer to the state of the float switch contact in the down position. A normally open float switch has an open contact (off) in the down position and a normally closed float switch has a closed contact (on) in the down position. Different panel functions require different types of float switches. Most applications require float switches that are normally open. One notable exception is the redundant off and low-level alarm function that requires a normally closed float switch, except with MVP and VCOM panels.

[2] Type

Floats have mechanical or mercury contactor types. The important distinction between these is that mercury floats are not rated for potable water.

[3] IR (intrinsically safe relay)

Approved for use with intrinsically safe, Class I, Division 1 applications, where reliable float switch operation with very low current is required.

[4] Drawdown

Drawdown (in inches) refers to the difference in liquid level between a float switch's activation and deactivation points. Drawdown can be altered by adjusting the tether length of the float switch cord. When selecting float switches, keep in mind that any float switch that can directly start and stop a pump (one that has no motor contactor in the control panel) should have a drawdown capability, to avoid rapid cycling of the pump.

[5] Signal-rated or motor-rated

Every float has a maximum amount of current it can handle. Exceeding these limits may cause premature failure. Signal-rated or "control" floats are used to activate pump control panels and alarms. Only low amperage signals pass through these float switches, hence the float switch is "signal-rated." All Orenco panels that use motor contactors can use signal-rated float switches. In some systems, a float switch is used to directly start and stop a pump. In this application, the current that is running the pump passes through the float switch as well, and the float switch must be "motor-rated." In most instances, a motor-rated float switch can be used as a signal float switch.

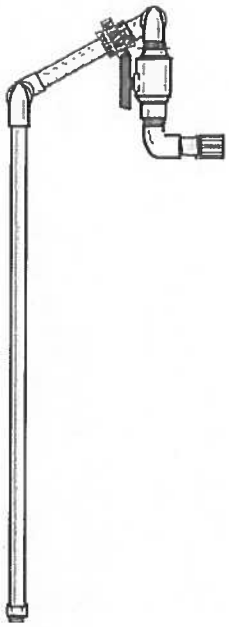
Discharge Assemblies

Submittal
Data Sheet

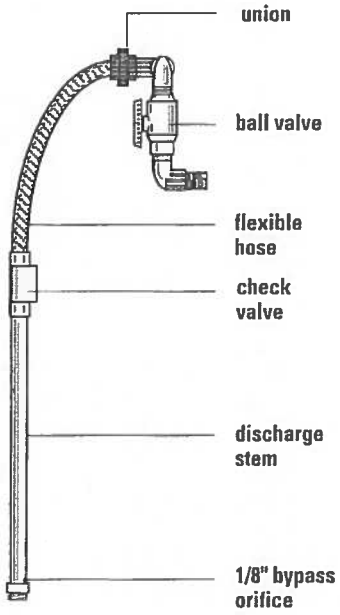
Orenco Systems®
Incorporated
1-800-348-9843

Applications

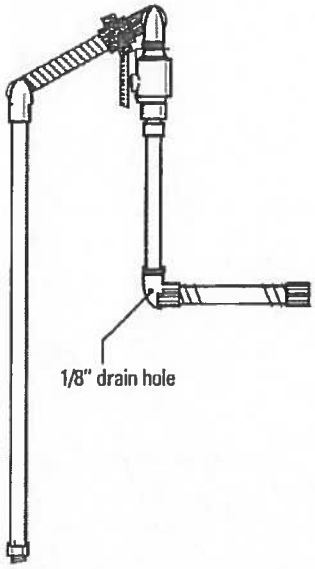
Discharge Assemblies include all of the necessary plumbing (pipe, fittings, etc.) to convey effluent from a pump to the outside of a riser or pump basin.



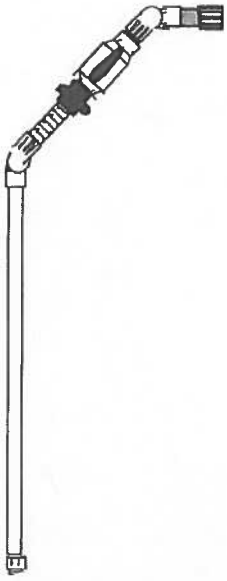
High-Head



Low Head



Cold Weather



Drainback

General

Orenco Discharge (Hose & Valve) Assemblies are corrosion resistant and adjustable for a proper fit. The flexible hose dampens vibration from the pump and allows for easy installation. All parts are either solvent welded or threaded and sealed with teflon paste.

"Low head style" discharge assemblies are designed for use with common effluent pumps; "high head style" discharge assemblies are designed for use with submersible turbine effluent pumps.

Standard Models

HV100, HV125, HV150, HV200.

Nomenclature

HV □□□ □ - □ □

- Indicates stem length (inches):
  4, 5*, 6*, 8*, 9*, 10*, 11, 12*, 14*, 15*, 16*, 17, 18*, 19*, 20, 21*, 22*, 23, 26, 29, 32, 35, 38, 41, 47
  **15" sand filter basin only*
- Indicates HV configuration:
  Blank = field cut (high-head style)
  H = high-head style pump
  L = low-head style pump
  DB = drain back (always field cut)
  15SF = 15" sand filter basin
- Indicates options:
  B = ball valve
  C = check valve
  FC = flow controller
  AS = anti-siphon
- Indicates discharge diameter (inches):
  100 = 1"
  125 = 1-1/4"
  150 = 1-1/2"
  200 = 2"
- Pump discharge assembly

HVCW □□□ KIT

- Indicates kit
- Indicates discharge diameter (inches):
  100 = 1"
  125 = 1-1/4"
  150 = 1-1/2"
  200 = 2"
- Indicates cold weather application
- Pump discharge assembly

Discharge Assemblies (continued)

Component & Product Code Adder	Sizes Available (in.)	Material(s) of Construction	General Specifications
Anti-Siphon Valve AS	1, 1.25, 1.5, 2	Sch. 40 PVC	Working Pressure = 150 psi @ 73° F.
Ball Valves B	1, 1.25, 1,5, 2	Sch. 40 PVC	Working Pressure = 150 psi @ 73° F.
Check Valve C	1, 1.25, 1.5, 2	Sch. 40 PVC	Working Pressure = 150 psi @ 73° F.
Flexible Hose (standard)	1, 1.25, 1.5, 2	PVC	Length varies with system configuration. Thickness & Limiting Pressures @ 73° F: Size / Wall thk. / Working / Bursting 1" / .11" / 100 psi / 355 psi 1 1/4" / .13" / 80 psi / 285 psi 1 1/2" / .13" / 70 psi / 270 psi 2" / .16" / 64 psi / 230 psi
External Flex Hose X	1, 1.25, 1.5, 2	PVC	Hose is the same as listed above
High-Pressure Flex Hose PR	1, 1.25, 1.5, 2	Specially compounded elastomer, synthetic, high tensile textile cord	Length varies with system configuration Thickness & Limiting Pressures @ 73° F: Size / Wall thk. / Working / Bursting 1" / .235" / 250 psi / N/A 1 1/4" / .24" / 200 psi / N/A 1 1/2" / .24" / 150 psi / N/A 2" / .22" / 150 psi / N/A
Flow Control Disk FC	1, 1.25, 1.5, 2	Sch. 80 PVC	Disk thickness = 1/8"
Gate Valve G	1, 1.25, 1.5, 2	Sch. 80 PVC	Working Pressure = 150 psi @ 73° F
Pipe & All Fittings (standard)	1, 1.25, 1.5, 2	Sch. 40 PVC	Lengths of pipe vary with system configuration. All components are either solvent welded or threaded and sealed with teflon paste
Unions (standard)	1, 1.25, 1.5, 2	Sch. 80 PVC	Working Pressure = 150 psi @ 73° F

Technical Data Sheet

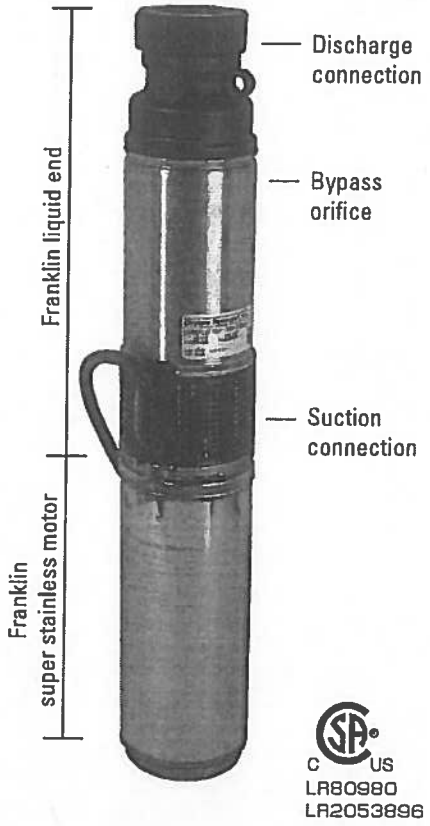
PF Series High-Head Effluent Pumps

Orenco Systems® Incorporated
800-348-9843

Applications

Our submersible High-Head Effluent Pumps are designed to transport screened effluent (with low TSS counts) from septic tanks or separate dosing tanks. All our pumps are constructed of lightweight, corrosion-resistant stainless steel and engineered plastics; all are field-serviceable and repairable with common tools; and all standard 60-Hz PF Series models are CSA certified to the U.S. and Canadian safety standards for effluent pumps, meeting UL requirements.

High-Head Effluent Pumps from Orenco® are used in a variety of applications, including pressurized drainfields, packed bed filters, mounds, aerobic units, effluent irrigation, effluent sewers, wetlands, lagoons, and more. These pumps are designed to be used with a Biotube® pump vault.



Features/Specifications

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

- Minimum 24-hour run-dry capability with no deterioration in pump life or performance*
- 1/8-inch (3-mm) bypass orifice (patent pending) to ensure flow recirculation for motor cooling and to prevent air bind
- Liquid end repair kits available for better long-term cost of ownership
- TRI-SEAL™ floating impeller design on 10-, 20-, and 30-gpm models; floating stack design on 50- and 75-gpm models
- Super stainless Franklin Electric motor, rated for continuous use and frequent cycling
- Type SOOW 600-V motor cable (suitable for Class I, Division 1 and Division 2 applications)
- Five-year warranty from date of manufacture against defects in materials or workmanship

** Not applicable for 5-hp models*

Standard Models

See specifications chart, pages 2-3, for a list of standard pumps. For a complete list of available pumps, call Orenco.

Nomenclature

PF □□ □□ □ □-□□

Cord length:
Blank = 10'
20* = 20'
30 = 30'
50 = 50'

Voltage (nameplate):
1 = 115 (1/2 hp only)
200 = 200
2 = 230 (220 if 50 Hz)
4 = 460

Frequency:
1 = single-phase 60 Hz
3 = three-phase 60 Hz
5 = single-phase 50 Hz

Horsepower:
05 = 1/2 hp
07 = 3/4 hp
10 = 1 hp
15 = 1-1/2 hp
20 = 2 hp
30 = 3 hp
50 = 5 hp

Nominal flow (gpm):
10
20
30
50
75

Pump (PF Series)

** Note: 20-foot cords are available only for single-phase pumps through 1-½ hp*

PF Series High-Head Effluent Pumps (continued)

Specifications

60 Hz

Model	Design gpm (L/sec)	Horsepower (kW)	Phase	Nameplate voltage	Actual voltage	Design flow amps	Max amps	Impellers	Discharge size and material[1]	Length, in. (mm)	Min. liquid level,[2] in. (mm)	Weight,[3] lb (kg)	Rated cycles/day
PF100511	10 (0.6)	0.5 (0.37)	1	115	120	12.7	12.7	6	1 1/4 in. GFP	23.0 (660)	16 (406)	26 (12)	300
PF100512	10 (0.6)	0.5 (0.37)	1	230	240	6.3	6.3	6	1 1/4 in. GFP	23.0 (660)	16 (406)	26 (12)	300
PF10053200	10 (0.6)	0.5 (0.37)	3	200	208	3.8	3.8	6	1 1/4 in. GFP	23.0 (660)	16 (406)	26 (12)	300
PF100712[4, 5]	10 (0.6)	0.75 (0.56)	1	230	240	8.3	8.3	8	1 1/4 in. GFP	25.9 (658)	17 (432)	30 (14)	300
PF10073200[4, 5]	10 (0.6)	0.75 (0.56)	3	200	208	5.1	5.2	8	1 1/4 in. GFP	25.4 (645)	17 (432)	31 (14)	300
PF101012[4, 5]	10 (0.6)	1 (0.75)	1	230	240	9.6	9.6	9	1 1/4 in. GFP	27.9 (709)	18 (457)	33 (15)	100
PF10103200[4, 5]	10 (0.6)	1 (0.75)	3	200	208	5.5	5.5	9	1 1/4 in. GFP	27.3 (693)	18 (457)	37 (17)	300
PF102012[6, 7, 8]	10 (0.6)	2 (1.49)	1	230	240	12.1	12.1	18	1 1/4 in. SS	39.5 (1003)	22 (559)	48 (22)	100
PF10203200[6, 8]	10 (0.6)	2 (1.49)	3	200	208	8.7	8.7	18	1 1/4 in. SS	37.9 (963)	20 (508)	44 (20)	300
PF200511	20 (1.5)	0.5 (0.37)	1	115	120	12.3	12.5	4	1 1/4 in. GFP	22.3 (566)	18 (457)	25 (11)	300
PF200512	20 (1.5)	0.5 (0.37)	1	230	240	6.4	6.5	4	1 1/4 in. GFP	22.5 (572)	18 (457)	26 (12)	300
PF20053200	20 (1.5)	0.5 (0.37)	3	200	208	3.7	3.8	4	1 1/4 in. GFP	22.3 (566)	18 (457)	26 (12)	300
PF201012[4, 5]	20 (1.5)	1 (0.75)	1	230	240	10.5	10.5	7	1 1/4 in. GFP	28.4 (721)	20 (508)	33 (15)	100
PF20103200[4, 5]	20 (1.5)	1 (0.75)	3	200	208	5.8	5.9	7	1 1/4 in. GFP	27.8 (706)	20 (508)	33 (15)	300
PF201512[4, 5]	20 (1.5)	1.5 (1.11)	1	230	240	12.4	12.6	9	1 1/4 in. GFP	34.0 (864)	24 (610)	41 (19)	100
PF20153200[4, 5]	20 (1.5)	1.5 (1.11)	3	200	208	7.1	7.2	9	1 1/4 in. GFP	30.7 (780)	20 (508)	35 (16)	300
PF300511	30 (1.9)	0.5 (0.37)	1	115	120	11.8	11.8	3	1 1/4 in. GFP	21.3 (541)	20 (508)	28 (13)	300
PF300512	30 (1.9)	0.5 (0.37)	1	230	240	6.2	6.2	3	1 1/4 in. GFP	21.3 (541)	20 (508)	25 (11)	300
PF30053200	30 (1.9)	0.5 (0.37)	3	200	208	3.6	3.6	3	1 1/4 in. GFP	21.3 (541)	20 (508)	25 (11)	300
PF300712	30 (1.9)	0.75 (0.56)	1	230	240	8.5	8.5	5	1 1/4 in. GFP	24.8 (630)	21 (533)	29 (13)	300
PF30073200	30 (1.9)	0.75 (0.56)	3	200	208	4.9	4.9	5	1 1/4 in. GFP	24.6 (625)	21 (533)	30 (14)	300
PF301012[4]	30 (1.9)	1 (0.75)	1	230	240	10.4	10.4	6	1 1/4 in. GFP	27.0 (686)	22 (559)	32 (15)	100
PF30103200[4]	30 (1.9)	1 (0.75)	3	200	208	5.8	5.8	6	1 1/4 in. GFP	26.4 (671)	22 (559)	33 (15)	300
PF301512[4, 5]	30 (1.9)	1.5 (1.11)	1	230	240	12.6	12.6	8	1 1/4 in. GFP	32.8 (833)	24 (610)	40 (18)	100
PF30153200[4, 5]	30 (1.9)	1.5 (1.11)	3	200	208	6.9	6.9	8	1 1/4 in. GFP	29.8 (757)	22 (559)	34 (15)	300
PF302012[4, 5, 7]	30 (1.9)	2 (1.49)	1	230	240	11	11	10	1 1/4 in. SS	35.5 (902)	26 (660)	44 (20)	100
PF30203200[4, 5]	30 (1.9)	2 (1.49)	3	200	208	9.3	9.3	10	1 1/4 in. SS	34.0 (864)	24 (610)	41 (19)	300
PF303012[6, 7, 8]	30 (1.9)	3 (2.23)	1	230	240	16.8	16.8	14	1 1/4 in. SS	44.5 (1130)	33 (838)	54 (24)	100
PF303032[6, 8]	30 (1.9)	3 (2.23)	3	230	240	10	10.1	14	1 1/4 in. SS	44.3 (1125)	27 (686)	52 (24)	300
PF305012[6, 7, 8]	30 (1.9)	5 (3.73)	1	230	240	25.6	25.8	23	1 1/4 in. SS	66.5 (1689)	53 (1346)	82 (37)	100
PF305032[6, 8]	30 (1.9)	5 (3.73)	3	230	240	16.6	16.6	23	1 1/4 in. SS	60.8 (1544)	48 (1219)	66 (30)	300
PF500511	50 (3.2)	0.5 (0.37)	1	115	120	12.1	12.1	2	2 in. SS	20.3 (516)	24 (610)	27 (12)	300
PF500512	50 (3.2)	0.5 (0.37)	1	230	240	6.2	6.2	2	2 in. SS	20.3 (516)	24 (610)	27 (12)	300
PF50053200	50 (3.2)	0.5 (0.37)	3	200	208	3.7	3.7	2	2 in. SS	20.3 (516)	24 (610)	28 (13)	300
✱ PF500712	50 (3.2)	0.75 (0.56)	1	230	240	8.5	8.5	3	2 in. SS	23.7 (602)	25 (635)	31 (14)	300
PF50073200	50 (3.2)	0.75 (0.56)	3	200	208	4.9	4.9	3	2 in. SS	23.1 (587)	26 (660)	32 (15)	300
PF500734	50 (3.2)	0.75 (0.56)	3	460	480	1.8	1.8	3	2 in. SS	34.8 (884)	25 (635)	31 (14)	300
PF501012	50 (3.2)	1 (0.75)	1	230	240	10.1	10.1	4	2 in. SS	27.0 (686)	26 (660)	35 (16)	100
PF50103200	50 (3.2)	1 (0.75)	3	200	208	5.7	5.7	4	2 in. SS	26.4 (671)	26 (660)	39 (18)	300
PF501512[4]	50 (3.2)	1.5 (1.11)	1	230	240	12.5	12.6	5	2 in. SS	32.5 (826)	30 (762)	41 (19)	100
PF50153200[4]	50 (3.2)	1.5 (1.11)	3	200	208	7	7	5	2 in. SS	29.3 (744)	26 (660)	35 (16)	300
PF503012[4, 5, 7, 8]	50 (3.2)	3 (2.23)	1	230	240	17.7	17.7	8	2 in. SS	43 (1092)	37 (940)	55 (25)	100
PF503032[4, 5, 8]	50 (3.2)	3 (2.23)	3	230	240	10.4	10.4	8	2 In SS	40 (1016)	30 (762)	46 (21)	300
PF50303200[4, 5, 8]	50 (3.2)	3 (2.23)	3	200	208	13.1	13.1	8	2 in. SS	43.4 (1102)	30 (762)	55 (25)	300
PF505032[6, 8]	50 (3.2)	5 (3.73)	3	230	240	16.5	16.5	13	2 in. SS	59.3 (1506)	49 (1245)	64 (29)	300
PF751512	75 (4.7)	1.5 (1.11)	1	230	240	12.1	12.3	4	2 in. SS	33.4 (848)	30 (762)	44 (20)	100

See notes on following page.

PF Series High-Head Effluent Pumps (continued)

50 Hz Model	Design gpm (L/sec)	Horsepower (kW)	Phase	Nameplate voltage	Actual voltage	Design flow amps	Max amps	Impellers	Discharge size and material[1]	Length, in. (mm)	Min. liquid level,[2] in. (mm)	Weight,[3] lb (kg)	Rated cycles/day
PF100552	10 (0.6)	0.5 (0.37)	1	220	230	3.9	4.1	6	1 1/4 in. GFP	23 (584)	17 (432)	26 (12)	300
PF100752	10 (0.6)	0.75 (0.56)	1	220	230	6.2	6.2	9	1 1/4 in. GFP	26.8 (658)	17 (432)	30 (14)	300
PF300552	30 (1.9)	0.5 (0.37)	1	220	230	4.1	4.1	4	1 1/4 in. GFP	22.5 (572)	19 (483)	26 (12)	300
PF300752	30 (1.9)	0.75 (0.56)	1	220	230	6.1	6.1	5	1 1/4 in. GFP	24.8 (630)	19 (483)	29 (13)	300
PF301052	30 (1.9)	1 (0.75)	1	220	230	7.4	7.4	7	1 1/4 in. GFP	28.4 (721)	20 (508)	32 (15)	100
PF301552[4, 5]	30 (1.9)	1.5 (1.11)	1	220	230	9.3	9.3	8	1 1/4 in. GFP	35.4 (899)	24 (610)	40 (18)	100
PF500552	50 (3.2)	0.5 (0.37)	1	220	230	4	4	2	2 in. SS	20.3 (516)	25 (635)	29 (13)	300
PF500752	50 (3.2)	0.75 (0.56)	1	220	230	6.3	6.4	3	2 in. SS	23.7 (602)	25 (635)	31 (14)	300
PF501052	50 (3.2)	1 (0.75)	1	220	230	7.3	7.4	4	2 in. SS	27 (686)	26 (660)	35 (16)	100
PF501552	50 (3.2)	1.5 (1.11)	1	220	230	9.1	9.1	5	2 in. SS	32.5 (826)	30 (762)	42 (19)	100

[1] GFP = glass-filled polypropylene; SS = stainless steel. The 1 1/4-in. NPT GFP discharge is 2 7/8 in. octagonal across flats; the 1 1/4-in. NPT SS discharge is 2 1/8 in. octagonal across flats; and the 2-in. NPT SS discharge is 2 7/8 in. hexagonal across flats. Discharge is female NPT threaded, U.S. 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 when 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 carton and 10-ft 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] Capacitor pack included with pump. Custom control panel required.

[8] Torque locks are available for all pumps, and are supplied with 3-hp and 5-hp pumps.

Materials of Construction

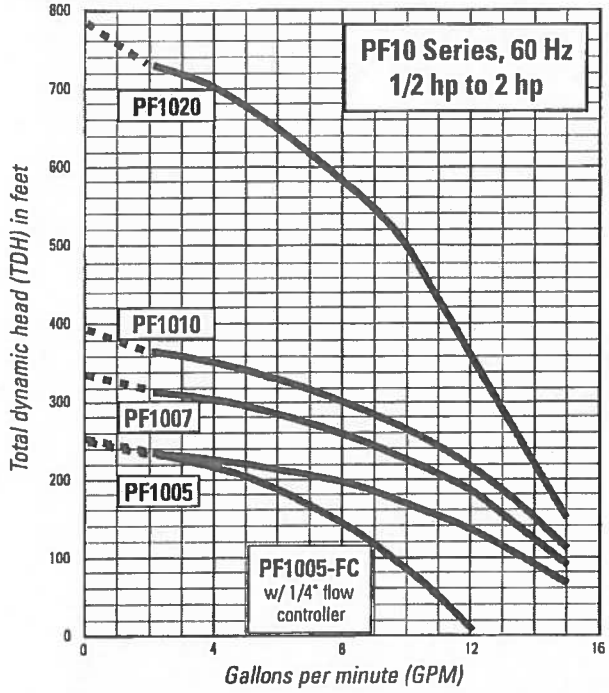
Discharge:	Glass-filled polypropylene or stainless steel
Discharge bearing:	Engineered thermoplastic (PEEK)
Diffusers:	Glass-filled PPO (Noryl GFN3)
Impellers:	Celcon® acetal copolymer on 10-, 20, and 30-gpm models; 50-gpm impellers are Noryl GFN3
Intake screen:	Polypropylene
Suction connection:	Stainless steel
Drive shaft:	7/16 inch hexagonal stainless steel, 300 series
Coupling:	Sintered stainless steel, 300 series
Shell:	Stainless steel, 300 series
Motor:	Franklin motor exterior constructed of stainless steel. Motor filled with deionized water and propylene glycol for constant lubrication. Hermetically sealed motor housing ensures moisture-free windings. All thrust absorbed by Kingsbury-type thrust bearing. Rated for continuous duty. Protected against thermal overload and equipped with surge arrestors for added security.

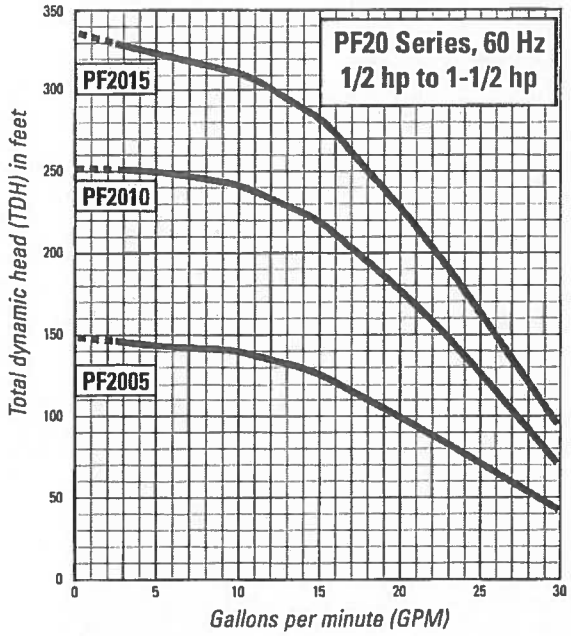
PF Series High-Head Effluent Pumps (continued)

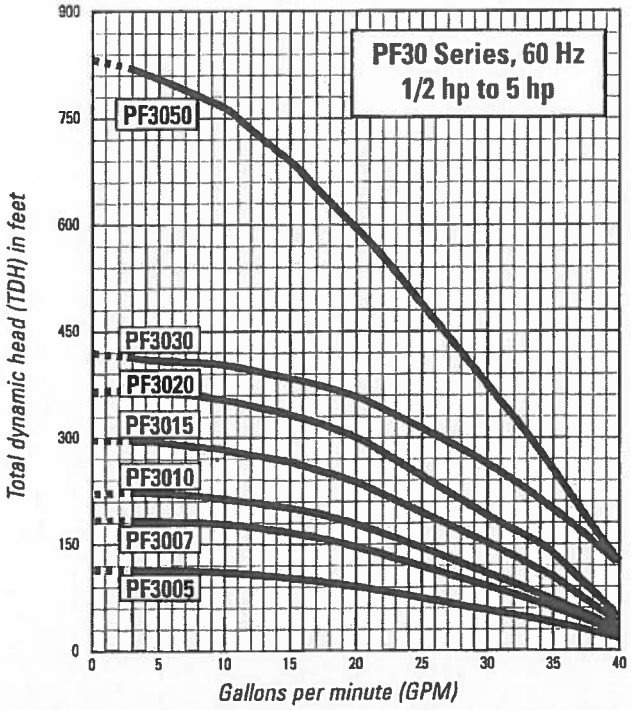
Using a Pump Curve

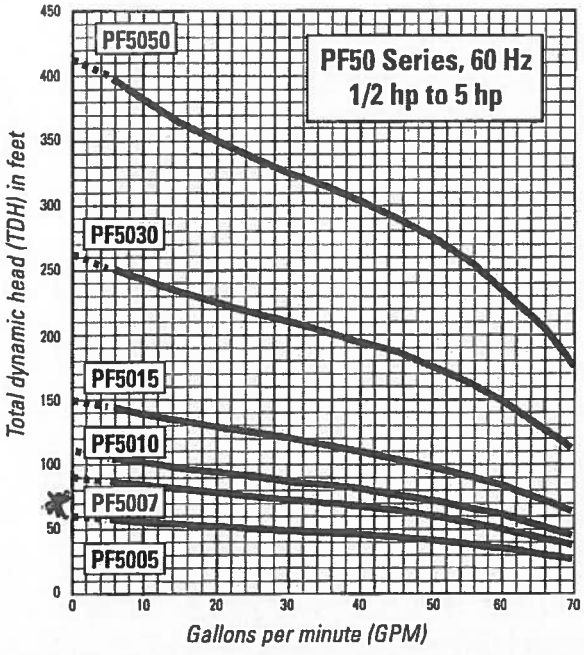
A *pump curve* helps you determine the best pump for your system. Pump curves show the relationship between flow (gpm or L/sec) and pressure (total dynamic head, or TDH), providing a graphical representation of a pump's optimal performance range. Pumps perform best at their *nominal flow rate* — the value, measured in gpm (or L/sec), expressed by the first two numerals in an Orenco pump nomenclature. At low flow rates, TDH varies from pump to pump, so it is represented as a dashed line in the pump curves. For most accurate pump specification, use Orenco's PumpSelect™ software.

60 Hz Models



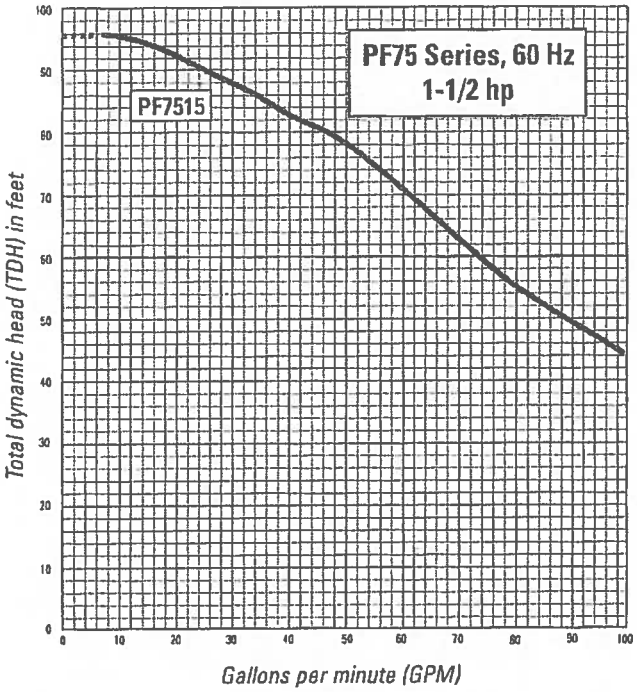






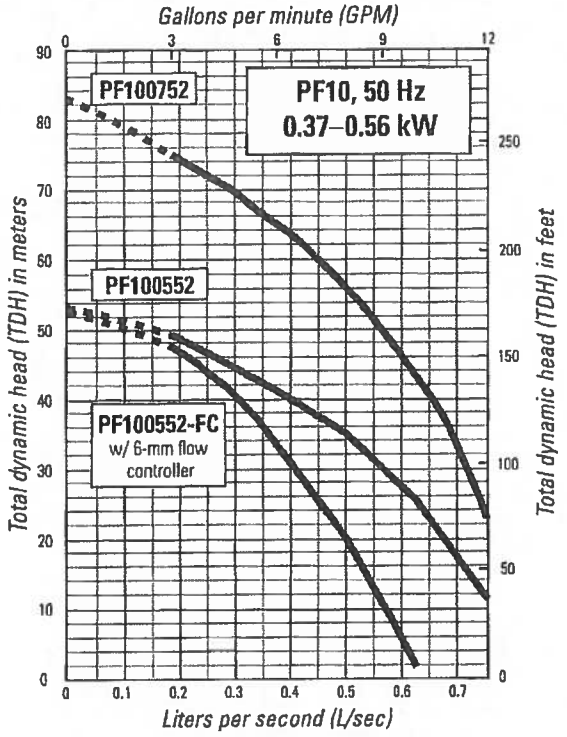
PF Series High-Head Effluent Pumps (continued)

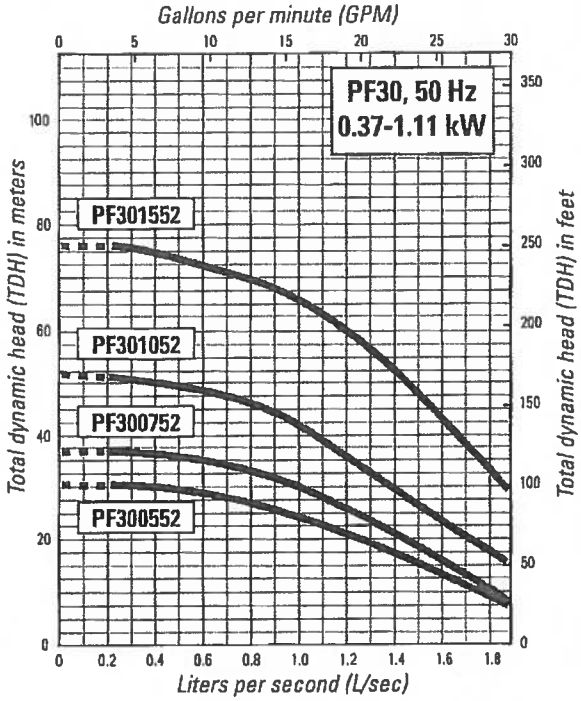
60 Hz Models (continued)

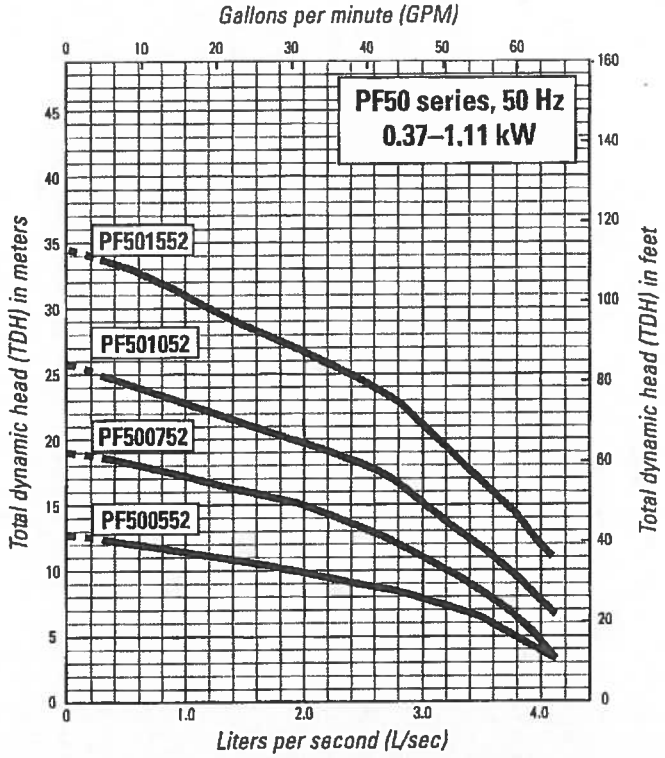


PF Series High-Head Effluent Pumps (continued)

50 Hz Models







AdvanTex® AX100 Filter

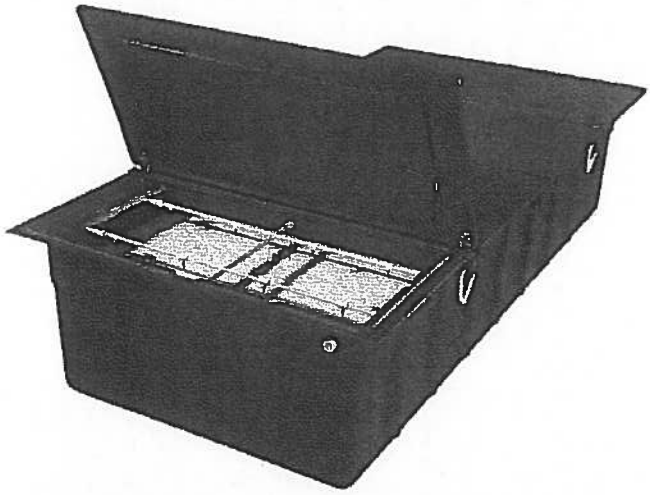
Commercial Technical Data Sheet

Applications

Orenco's AdvanTex® Treatment System* is an innovative technology for onsite treatment of domestic-strength wastewater. The heart of the System is the AdvanTex Filter, a sturdy, watertight fiberglass basin filled with an engineered textile material. This lightweight, highly absorbent textile material treats a tremendous amount of wastewater in a small space. The AdvanTex Treatment System is ideal for:

- Small sites
- System upgrades and repairs
- New construction
- Poor soils
- Nitrogen reduction
- Price-sensitive markets
- Pretreatment

For sizing, see *AdvanTex® Design Criteria* (NDA-ATX-COMM-2).



** Covered by U.S. patent numbers 6,540,920; 6,372,135; 5,980,748; 5,531,894; 5,492,635; 5,480,561; 5,360,556; and 4,439,323. Additional patents pending.*

Features/Unique Specifications

To specify this product, require the following:

- Wastewater treatment to better than "Secondary" Treatment Standards
- Consistent treatment, even during peak flows
- Timer operation for flow monitoring, flow modulation, and surge control
- Fixed film textile media (a polyester plastic), operated in an unsaturated condition
- Consistent media quality
- Low maintenance requirements
- Low energy consumption
- Complete premanufactured package, ready-to-install
- Watertight construction, corrosion-proof materials, lid bolts
- Quiet operation

Standard Models

AX100

Physical Specifications

Approximate Dimensions**

Filter Basin Length	191 in.
Width	94.5 in.
Height	42.5 in.
Area (footprint)	128 sq. ft.
Filter Dry Weight	1,650 lbs.

*** See AdvanTex Treatment System drawings for exact dimensions.*

Orenco Systems®
Incorporated

Changing the Way the World Does Wastewater®

www.orenco.com

ATD-ATX-AX-3
Rev. 1.0, 5/03

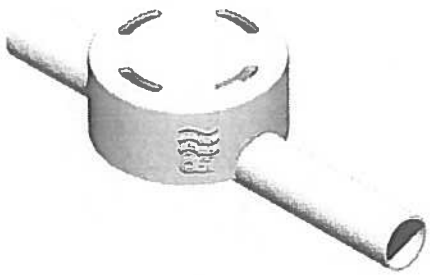
Orifice Shields

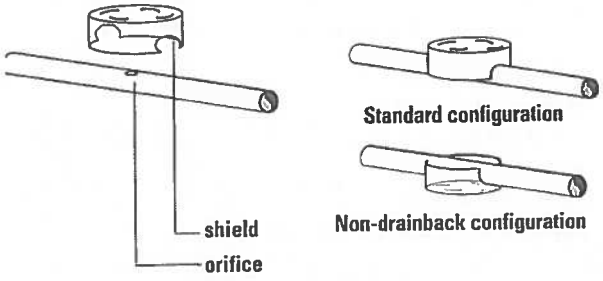
Submittal
Data Sheet

Orenco Systems®
Incorporated
1-800-348-9843

Applications

Orenco Orifice Shields are used in a pressurized distribution system to protect the orifices from backfill debris that might cause orifice blockage.





(Orenco orifice shields may be placed on top of or beneath a lateral, depending on the location of the orifice)

General

Orenco Orifice Shields snap-fit onto laterals. Orifice shields are covered by method-of-use patent no. 5,360,556.

Standard Models

OS075, OS100, OS125,
OS150, OS200

Nomenclature

OS XXX
└ Indicates the corresponding lateral size (in.)

Specifications

Dimensions

Model	OS075	OS100	OS125	OS150	OS200
Shield O.D. (in.)	3.5	3.5	3.5	4.5	4.5
Distribution Pipe O.D. (in.)	1.05	1.315	1.66	1.90	2.375

Materials of Construction:

PVC (polyvinylchloride) per ASTM D-1784

B3885

ITT

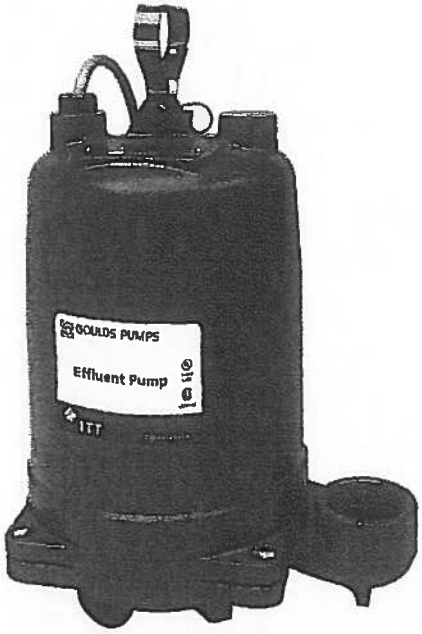
Wastewater

Goulds Pumps

WE Series Model 3885

Submersible Effluent Pump

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.



FEATURES

- **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
- **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.
- **Mechanical Seal:** Silicon Carbide vs. Silicon Carbide sealing faces. Stainless steel metal parts, BUNA-N elastomers.
- **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.
- **Fasteners:** 300 series stainless steel.
- Capable of running dry without damage to components.
- Designed for continuous operation when fully submerged.

GOULDS PUMPS

Goulds Pumps is a brand of ITT Corporation.

www.goulds.com

Engineered for life

APPLICATIONS

Specifically designed for the following uses:

- Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on ⅓ – 1½ HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ – 1 HP models have NEMA three prong grounding plugs.
- 1½ HP and larger units have bare lead cord ends.

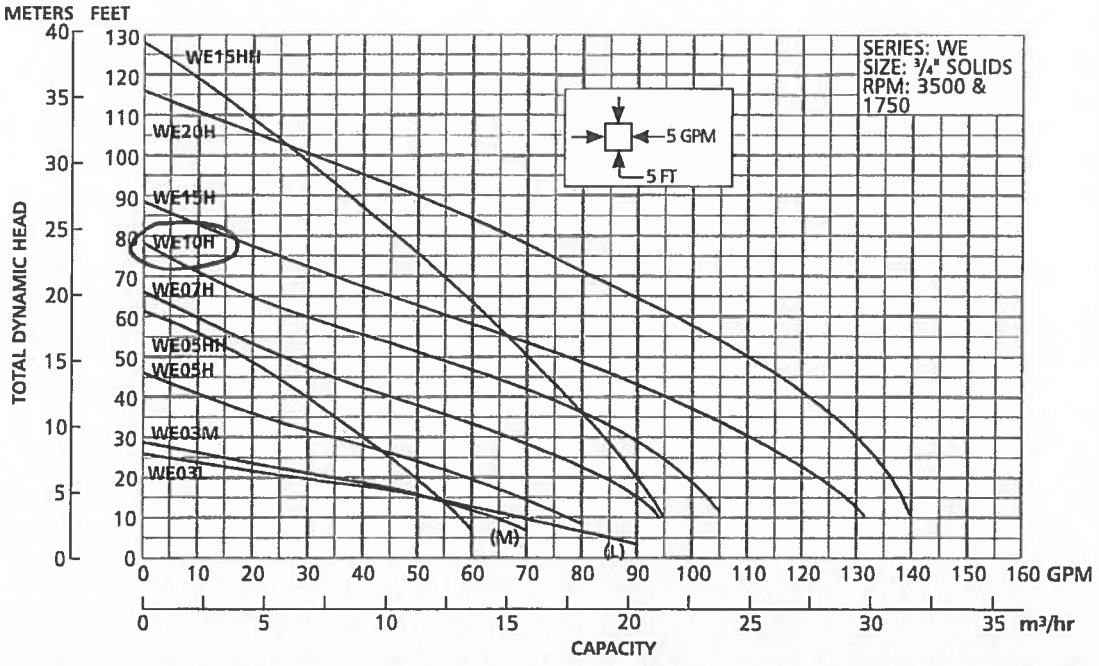
Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- **Bearings:** Upper and lower heavy duty ball bearing construction.
- **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association File #LR38549
Goulds Pumps is ISO 9001 Registered.



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GOULDS PUMPS
Wastewater

MODELS

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance Start	Resistance Line-Line	Power Cable Size	Weight (lbs.)
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56
WE0318L			208			6.8	19.5	K	51	9.1	4.2		
WE0312L			230			4.9	14.1	L	53	14.5	8.0		
WE0311M			115			10.7	30.0	M	54	11.9	1.7		
WE0318M			208			6.8	19.5	K	51	9.1	4.2		
WE0312M			230			4.9	14.1	L	53	14.5	8.0		
WE0511H	0.5	1	115	3450	3.56	14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518H			208			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0512H			230			7.3	34.5	M	53	9.6	4.0		
WE0538H		3	200			4.9	22.6	R	68	NA	3.8	14/4	60
WE0532H			230			3.3	18.8	R	70	NA	5.8		
WE0534H			460			1.7	9.4	R	70	NA	23.2		
WE0537H			575			1.4	7.5	R	62	NA	35.3		
WE0511HH		1	115		3.88	14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518HH			208			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0512HH			230			7.3	34.5	M	53	9.6	4.0		
WE0538HH		3	200			4.9	22.6	R	68	NA	3.8	14/4	60
WE0532HH			230			3.6	18.8	R	70	NA	5.8		
WE0534HH			460			1.8	9.4	R	70	NA	23.2		
WE0537HH			575			1.5	7.5	R	62	NA	35.3		
WE0718H	0.75	1	208		4.06	11.0	31.0	K	68	9.7	2.4	14/3	70
WE0712H			230			10.0	27.5	J	65	12.2	2.7		
WE0738H		3	200			6.2	20.6	L	64	NA	5.7	14/4	70
WE0732H			230			5.4	15.7	K	68	NA	8.6		
WE0734H			460			2.7	7.9	K	68	NA	34.2		
WE0737H			575			2.2	9.9	L	78	NA	26.5		
WE1018H	1	1	208		4.44	14.0	59.0	K	68	9.3	1.1	14/3	70
* WE1012H			230			12.5	36.2	J	69	10.3	2.1		
WE1038H		3	200			8.1	37.6	M	77	NA	2.7	14/4	70
WE1032H			230			7.0	24.1	L	79	NA	4.1		
WE1034H			460			3.5	12.1	L	79	NA	16.2		
WE1037H			575			2.8	9.9	L	78	NA	26.5		
WE1518H	1.5	1	208		4.56	17.5	59.0	K	68	9.3	1.1	14/3	80
WE1512H			230			15.7	50.0	H	68	11.3	1.6		
WE1538H		3	200			10.6	40.6	K	79	NA	1.9	14/4	80
WE1532H			230			9.2	31.7	K	78	NA	2.9		
WE1534H			460			4.6	15.9	K	78	NA	11.4		
WE1537H			575			3.7	13.1	K	75	NA	16.9		
WE1518HH		1	208		5.50	17.5	59.0	K	68	9.3	1.1	14/3	80
WE1512HH			230			15.7	50.0	H	68	11.3	1.6		
WE1538HH		3	200			10.6	40.6	K	79	NA	1.9	14/4	80
WE1532HH			230			9.2	31.7	K	78	NA	2.9		
WE1534HH			460			4.6	15.9	K	78	NA	11.4		
WE1537HH			575			3.7	13.1	K	75	NA	16.9		
WE2012H	2	1	230		5.38	18.0	49.6	F	78	3.2	1.2	14/3	83
WE2038H		3	200			12.0	42.4	K	78	NA	1.7	14/4	83
WE2032H			230			11.6	42.4	K	78	NA	1.7		
WE2034H			460			5.8	21.2	K	78	NA	6.6		
WE2037H			575			4.7	16.3	L	78	NA	10.5		

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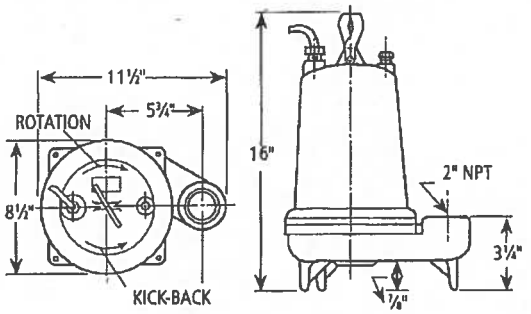
Wastewater

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
	HP	⅓	⅓	½	¾	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
Total Head Feet of Water	5	86	–	–	–	–	–	–	–	–
	10	70	63	78	94	–	–	58	95	–
	15	52	52	70	90	103	128	53	93	138
	20	27	35	60	83	98	123	49	90	136
	25	5	15	48	76	94	117	45	87	133
	30	–	–	35	67	88	110	40	83	130
	35	–	–	22	57	82	103	35	80	126
	40	–	–	–	45	74	95	30	77	121
	45	–	–	–	35	64	86	25	74	116
	50	–	–	–	25	53	77	–	70	110
	55	–	–	–	–	40	67	–	66	103
	60	–	–	–	–	30	56	–	63	96
	65	–	–	–	–	20	45	–	58	89
	70	–	–	–	–	–	35	–	55	81
	75	–	–	–	–	–	25	–	51	74
	80	–	–	–	–	–	–	–	47	66
	90	–	–	–	–	–	–	–	37	49
	100	–	–	–	–	–	–	–	28	30

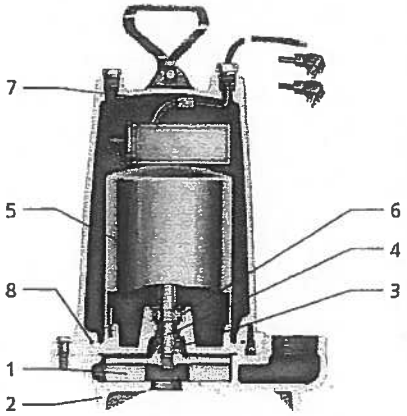
DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



GOULDS PUMPS

B3885 June, 2009

Engineered for life

Sand Filter Liners

Submittal
Data Sheet

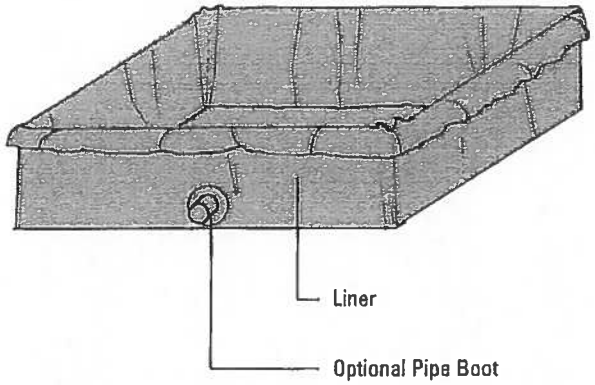
Orenco Systems®
Incorporated
1-800-348-9843

Applications

Orenco Sand Filter Liners are used to contain sand filter media and effluent.

General

Orenco Sand Filter Liners are constructed of 30 mil PVC vinyl. Sizes are available per customer specification. Pipe boots, available as options, are constructed of PVC vinyl and sealed with vinyl cement.



Standard Models

LI1945, LI2046, LI2147, LI2233, LI2237, LI2242, LI2252, LI2437, LI2447, LI2728, LI2737, LI2831, LI2931, LI3030, LI3032, LI3132, LI3232.

Nomenclature

LI XX XX
- XX Indicates liner length (feet)
- XX Indicates liner width (feet)

(Custom sizes available upon request)

Specifications

Material Property	Rating	ASTM Specification
Tensile Strength (lbs./in.)	75	D882
Elongation (%)	350	D882
Graves Tear (lbs.; lbs./in.)	9.0; 300	D1004
Cold Impact (°F)	-20	D1790
Dimensional Stability (%)	5	D1204
Volatility (%)	0.7	D1203
Density (g/cm)	1.2	D1505

Optional pipe boots may be factory installed by heat welding or field glued with H-66 vinyl cement.

Material of Construction:

PVC vinyl. Formulated to resist fungus growth. Contains U.V. inhibitors. Low toxicity.