Orenco SYSTEMS

Technical Data Sheet

Prelos™ Processor

Applications

Orenco's Prelos™ Processor provides complete, integrated storage, filtration, and pumping of wastewater for on-lot portions of Prelos Sewer Systems and other pressurized, liquid-only sewers or dispersal systems.

General

The Prelos Processor is the core of the Prelos Sewer System: an innovative technology based on 40 years of proven sewer solutions. The tank stores and passively treats solid waste, while the patent-pending pump vault and filter separate and pump liquid effluent.*

The Prelos Processor installs as a unit, to reduce errors. Components are easy to access and service. The passively self-cleaning filter can be removed without removing the pump vault, pump, or discharge assembly, simplifying O&M and keeping related costs down.

** Tank covered under United States Patent #10,392,281*

Standard Model

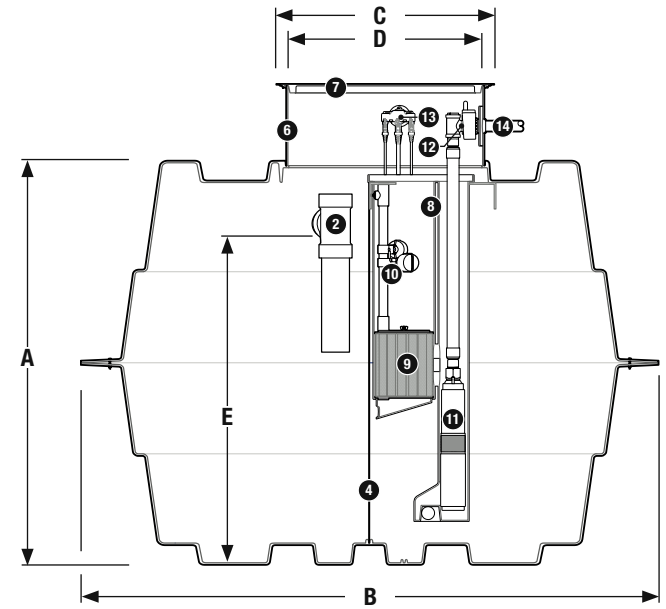
PRELOS1000-18, PRELOS1000-24, PRELOS1000-30, PRELOS1000-36, PRELOS1000-48, PRELOS1000-60

Product Code Diagram

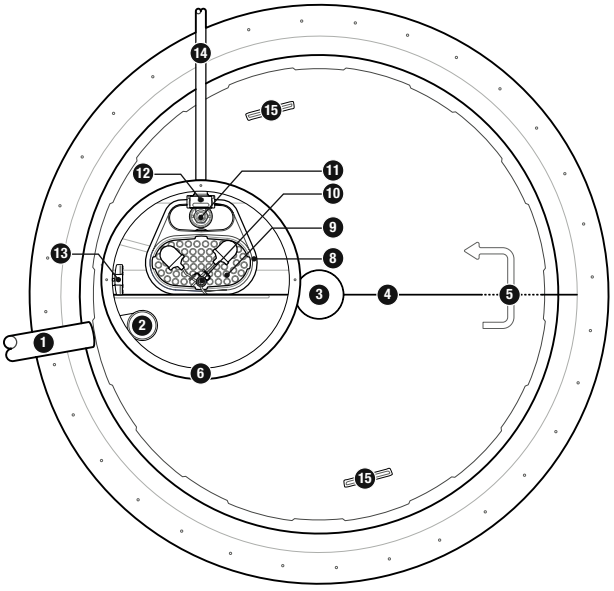
PRELOS 1000– ☐

- Access riser height, in. (mm)
  - 18 = 18 (457)
  - 24 = 24 (610)
  - 30 = 30 (762)
  - 36 = 36 (914)
  - 48 = 48 (1219)
  - 60 = 60 (1524)
- Tank size, gal. (L)
  - 1000 = 1000 (3785)
- Prelos™ Processor

The Prelos™ Processor offers complete, integrated storage and pumping of wastewater in a simple, effective package.



Side view



Top view

1. Inlet
2. Inlet tee
3. Support column
4. Baffle wall (full-length)
5. Baffle pass-through
6. Access riser
7. Access lid
8. Pump vault
9. Biotube® filter
10. Float switch assembly
11. Pump
12. Discharge assembly
13. ClickTight™
14. Discharge
15. Lifting bracket

Tank, Riser, and Lid

The Prelos Processor's meander-style tank has a patented design for superior performance. It's tough, impact-resistant, and light enough to install with small equipment. The single access riser and access lid are designed to provide strong, secure access to components inside of the Prelos Processor.

Materials of Construction

Access lid	Fiberglass, structural foam
Access lid hardware	Stainless steel
Access riser	Fiberglass
Inlet and inlet tee	ABS
Baffle wall	ABS
Support column	PVC, ABS
Tank body	DCPD

Dimensions

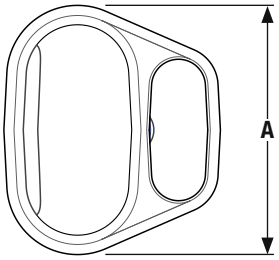
A. Tank height, in. (mm)	61 (1549)
B. Tank outside diameter, in. (mm)	96 (2438)
C. Lid outside diameter, in. (mm)	33 (838)
D. Riser inside diameter, in. (mm)	29.5 (749)
E. Depth, nominal operating volume, in. (mm)	48 (1219)
Tank nominal operating volume, gal. (L)	1000 (3785)
Tank total volume, gal. (L)	1220 (4618)
Average volume at operating depth, gal./in. (L/mm)	20 (3)
Prelos Processor weight, nom., lbs (kg)	600-690 (272-313)

Pump Vault

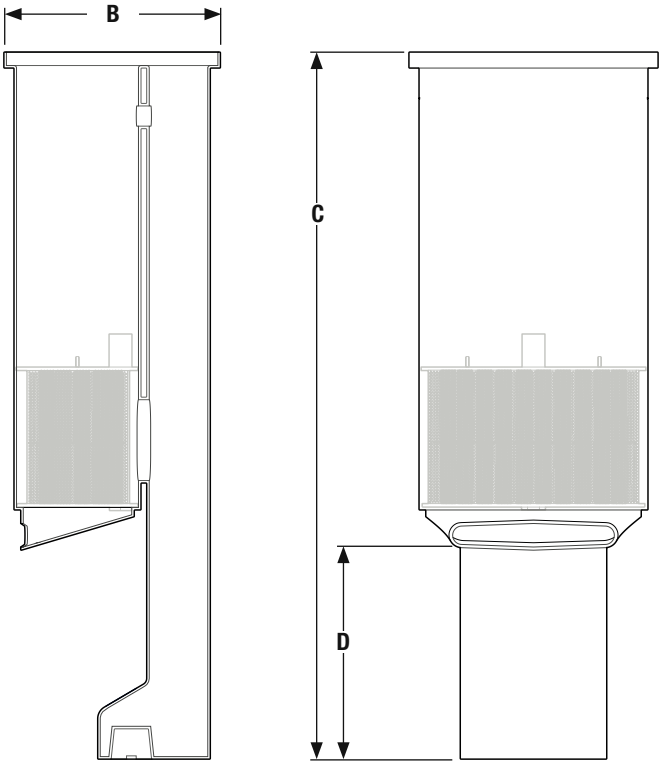
The Prelos Processor's patent-pending pump vault is designed to be passively self-cleaning for reduced maintenance and service needs, with no need to remove the filter from the processor for cleaning.

Materials of Construction

Vault body	Polyethylene
Vault Dimensions	**in. (mm)**
A	18.5 (470)
B	14.56 (370)
C	52.5 (1334)
D	16.94 (430)



Prelos™ pump vault, top view



Prelos pump vault, side-cutaway view

Prelos pump vault, front view

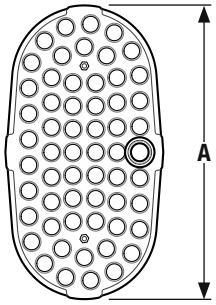
Biotube® Filter

The Prelos Processor's Biotube® filter is designed for effective filtration of effluent and passive self-cleaning for long cleaning intervals.

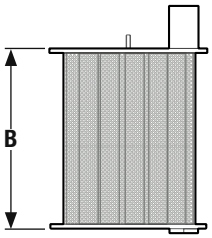
Materials of Construction

End plates	DCPD
Filter tubes	Polypropylene
Handle assembly	Sch. 40 PVC
Screws	Stainless steel
Dimensions	**in. (mm)**
A	16.31 (414)
B	10.0 (254)
Performance	
Biotube® mesh opening, in. (mm)*	0.125 (3)
Total filter flow area, ft^2 (m^2)	3.75 (0.35)
Total filter surface area, ft^2 (m^2)	13.5 (1.25)

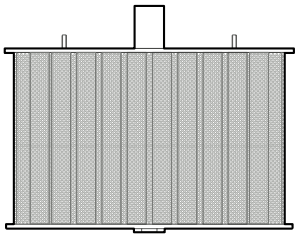
**0.062-in. (1.6-mm) filter mesh available*



Biotube® filter cartridge, top view



Biotube filter cartridge, side view



Biotube filter cartridge, front view

4-in. (100-mm) Effluent Pump

Prelos Processors use Orenco's PF-Series 4-in. (100-mm) effluent pumps. They're field-serviceable with common tools and have a minimum 24-hour run-dry capability (liquid end) with no deterioration in pump life or performance, in internal testing. These pumps are equipped with Type SOOW 600-V power cords (suitable for Class I, Division 1 and 2 applications); they also meet UL requirements and are CSA-certified to U.S. and Canadian safety standards for effluent pumps.

Materials of Construction

Connector	Glass-filled thermoplastic, silicone
Diffusers	Glass-filled PPO
Discharge	Glass-filled polypropylene
Discharge bearing	Engineered thermoplastic (PEEK)
Impellers	Acetal
Intake screens	Polypropylene
Lubricant	Deionized water, propylene glycol
Suction connection, drive shaft, coupling, shell	Stainless steel

Specifications

Nom. flow, gpm (L/sec)	Length, in. (mm)	Weight, lb (kg)	Discharge in., nominal[1]	Impellers
10 (0.6)	23 (584)	26 (12)	1.25	6

Performance

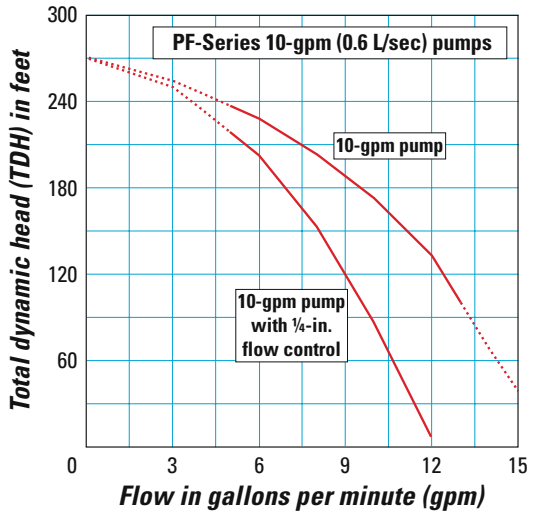
hp (kW)	Design flow amps	Rated cycles/day	Min liquid level, in. (mm) [2]
0.5 (0.37)	12.7	300	16 (406)

[1] Consult your Orenco Distributor about fittings to connect discharge assemblies to metric-sized piping.

[2] Minimum liquid level is for a single pump installed in a pump vault.

Pump Curve

This graph gives a representation of the pump's performance range and the relationship between flow (gpm or L/sec) and pressure (TDH).



PF-Series 10-gpm pump curve

Discharge Assembly

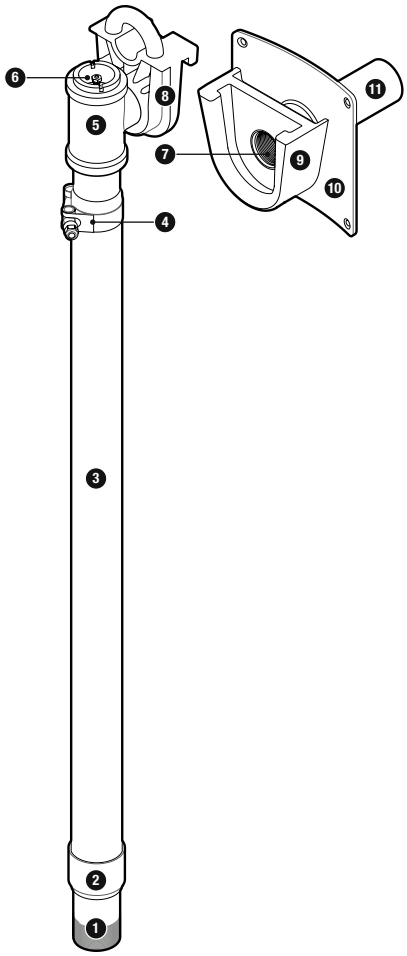
Prelos Processors use Orenco's HDA-Series discharge assemblies for durability and ease of maintenance.

Materials of Construction

Anti-siphon valve	Sch. 80 PVC, EPDM, stainless steel
Discharge nipple	Sch. 80 PVC
Flexible hose	Reinforced EPDM
Flow control disc	Sch. 80 PVC
Hose fittings, tee fitting, mounting screws	Stainless steel
In-line check valve	Sch. 80 PVC, EPDM, stainless steel
Mounting plate	ABS
Quick-disconnect	Glass-filled thermoplastic

Working Pressures and Dimensions

Unit working pressure, psi (kPa)	150 (1034)
Height, mounting plate, in. (mm)	7 (178)
Width, mounting plate, in. (mm)	7 (178)
Diameter, discharge nipple, in. (mm)	1.25 (32)
Diameter, flow control disc orifice, in. (mm)	0.25 (6.35)



1. Hose barb
2. Crimp sleeve
3. Flexible hose
4. Hose clamp
5. Tee fitting
6. Anti-siphon valve
7. In-line check valve
8. Quick-disconnect, male
9. Quick-disconnect, female
10. Mounting plate
11. Discharge nipple

Discharge assembly – HDA-series

Float Switches

Float switches used in Prelos Processors are UL-listed and CSA-certified for use in water or sewage.

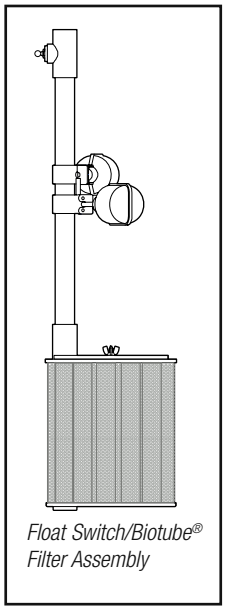
To simplify accessing and servicing, the float switch assembly has been incorporated into the Biotube® filter handle.

Materials of Construction

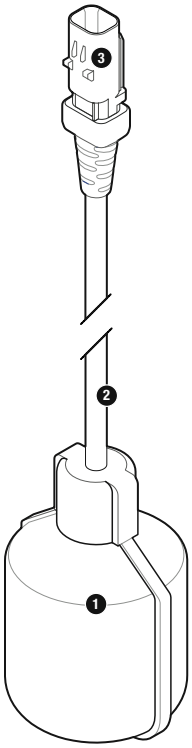
ClickTight connector	Glass-filled thermoplastic, silicone
Float collar	ABS
Float cord	Flexible 2-conductor (UL, CSA) SJOW; CPE cord jacket with EPDM insulated conductors
Float housing	Impact-resistant, noncorrosive polypropylene for use in liquids up to 140˚ F (60˚ C)

Float Switch Specifications

Float	State	Type
P	Normally open	Mechanical



Float Switch/Biotube® Filter Assembly



❶ Float switch
❷ Float switch cord
❸ Float switch connector

ClickTight™ mechanical float switch

ClickTight™

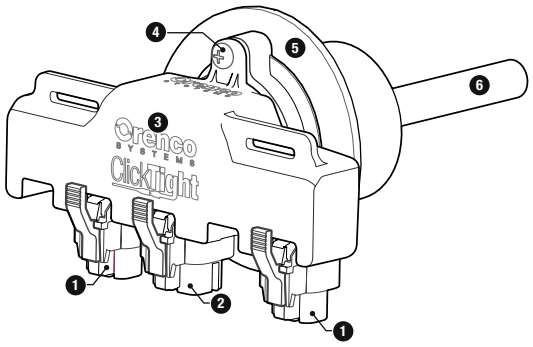
Orenco's ClickTight™ provides secure, moisture-resistant cable connections between the pump, float switches, and control panel in the Prelos Processor. ClickTight is UL-listed for the US and Canada.

Materials of Construction

Cable	PVC/nylon, annealed copper; Type TC
Connectors	Glass-filled thermoplastic, silicone
Fastener	Stainless steel
Housing	ABS
O-ring	Buna N
Potting compound	Urethane

Specifications

Cable rating	14 AWG; 3-conductor; UL TC-ER 600V (Pump) 18 AWG; 2-8 conductor; UL TC-ER 600V (Float)
Float switch connectors	2-pole
Pump connector	3-pole
Maximum cable length, ft (m)	62 (19)



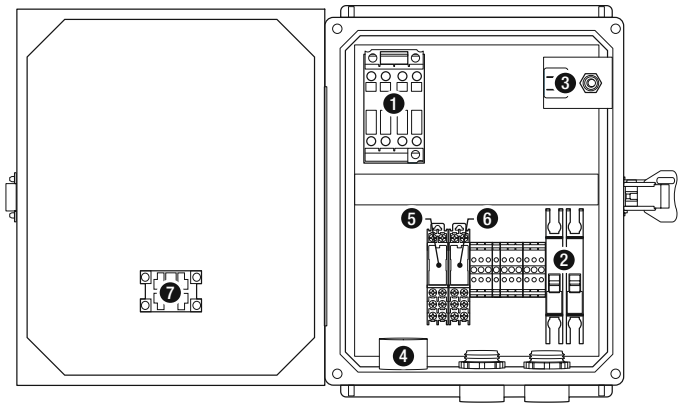
❶ Float input connector
❷ Pump input connector
❸ ClickTight housing
❹ Stainless steel fastener
❺ Mounting flange
❻ Cable

ClickTight™

S1HR Control Panel

The Prelos Processor uses Orenco's S1HR control panel, which is ideal for Prelos Sewers and other effluent sewer applications.

Materials of Construction	
Enclosure	UV-resistant fiberglass, UL Type 4X
Hinges	Stainless steel
Dimensions, in. (mm)	
Height	11.5 (292)
Width	9.3 (236)
Depth	5.4 (135)
Specifications	
Panel ratings	120 VAC, 1 hp (0.75 kW), 16 A, 1-phase, 60 Hz
1. Motor-start contactor	16 FLA, 1 hp (0.75 kW), 60 Hz; 2.5 million cycles at FLA
2. Circuit breakers	120 VAC, 10 A, single-pole, control 120 VAC, 20 A, single-pole, pump
3. Toggle switch	Single-pole, double-throw HOA switch
4. Audio alarm	95 dB at 24 in. (600 mm), warble-tone sound, UL Type 4X 6
5. Redundant high-on relay	120 VAC, DIN rail mounted; provides a secondary pump-on signal during high-level conditions
6. Audio alarm silence relay	120 VAC, automatic reset, DIN rail mount
7. Visual alarm	7/8-in. (22-mm) diameter red lens, "push-to-silence," 120 VAC LED, UL Type 4X



1. Motor-start contactor
2. Circuit breakers
3. Toggle switch
4. Audio alarm
5. Redundant high-on relay
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7. Visual alarm

S1HR control panel