

Prelos™ 1500 Processor

Applications

Orenco's Prelos™ 1500 Processors provide complete, integrated storage, filtration, and discharge of wastewater for on-lot portions of Prelos Sewer™ systems and other pressurized, liquid-only sewers or dispersal systems.

General

Prelos Processors™ are the core of the Prelos Sewer system: an innovative technology based on 40 years of proven sewer solutions.

The Prelos 1500 Processor's tank* stores and passively treats solid waste, while the patent-pending PSC-series pump vault and Biotube® effluent filter separate and pump liquid effluent. The standard 30-in. (750-mm) diameter access riser and optional additional 24-in. (600-mm) diameter access riser provide easy access to the tank interior, and the filter's passively self-cleaning design extends maintenance cycle intervals. When servicing is necessary, the effluent filter can be removed without removing the pump vault, pump, or discharge assembly, to simplify O&M and keep related costs down.

All Prelos Processors install as a unit, to reduce errors.

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

Selected Models

PRELOS1500-24, PRELOS1500-36
 PRELOS1500-24-24, PRELOS1500-36-36,

Product Code Diagram

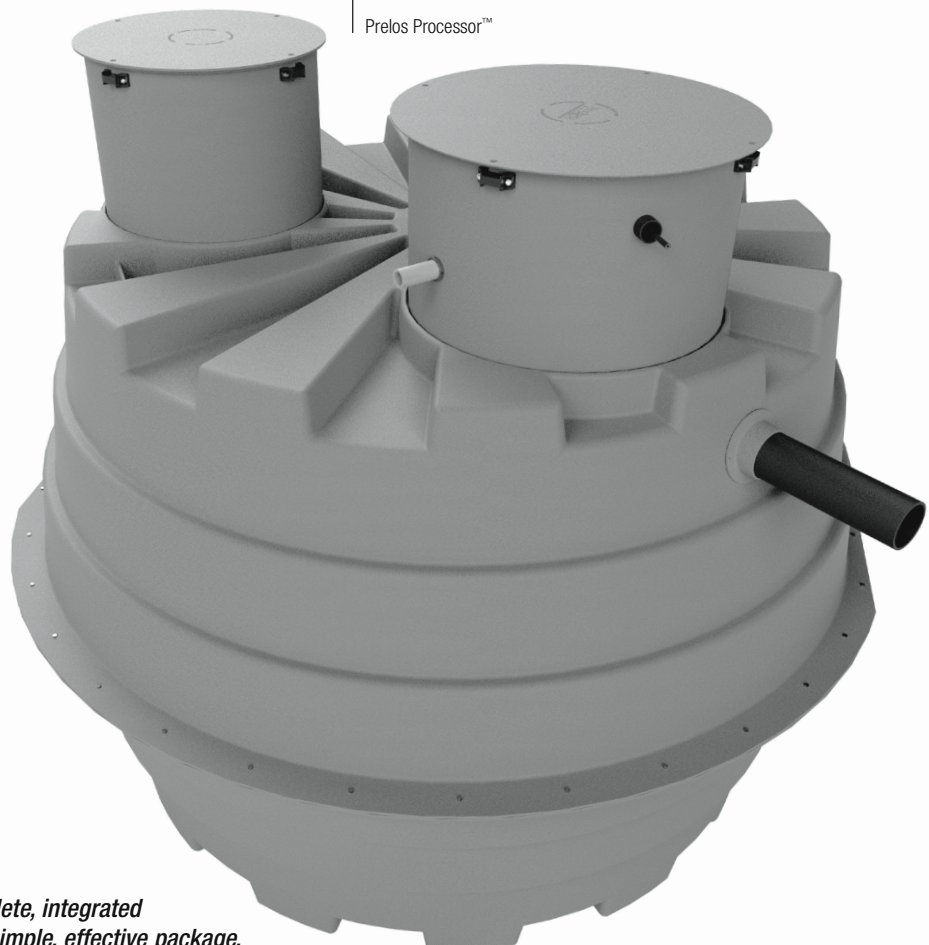
PRELOS 1500 - -

Optional secondary access riser height, in. (mm):
 Blank = no secondary riser
 18 = 18 (457)
 24 = 24 (610)
 30 = 30 (762)
 36 = 36 (914)
 48 = 48 (1219)
 60 = 60 (1524)

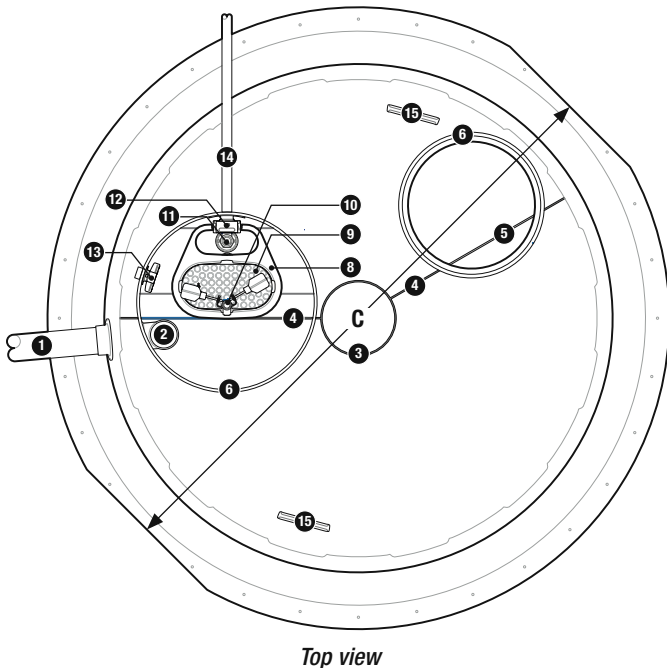
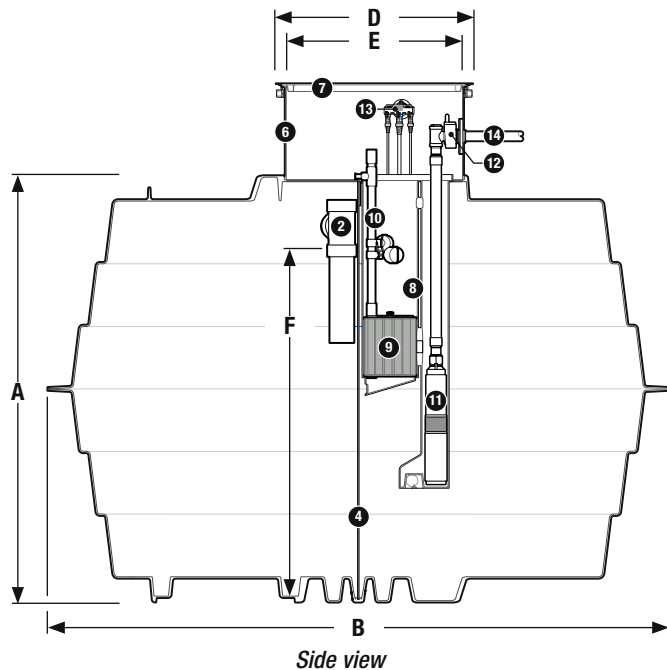
Access riser height, in. (mm):
 18 = 18 (457)
 24 = 24 (610)
 30 = 30 (762)
 36 = 36 (914)
 48 = 48 (1219)
 60 = 60 (1524)

Tank size, gal. (L):
 1500 = 1500 (5678)

Prelos Processor™



The Prelos™ 1500 Processor offers complete, integrated storage and pumping of wastewater in a simple, effective package.



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

Tank, Riser, and Lid

The Prelos 1500 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 standard 30-in. (750-mm) access riser, optional additional 24-in (600-mm) riser, and access lids are designed to provide secure access to components inside of the Prelos 1500 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)	72 (1829)
B. Tank outside diameter, in. (mm)	105 (2667)
C. Tank width, flat-to-flat, in. (mm)	101 (2565)
D. Lid outside diameter, in. (mm)	33 (838)
E. Riser inside diameter, in. (mm)	29.5 (749)
F. Depth, nominal operating volume, in. (mm)	57 (1448)
Optional secondary riser lid outside dia., in. (mm)	24 (610)
Optional secondary riser inside dia., in. (mm)	23.5 (597)
Tank nominal operating volume, gal. (L)	1500 (5678)
Tank total volume, gal. (L)	1788 (6768)
Average volume at operating depth, gal./in. (L/mm)	25 (4)
Prelos Processor weight, nom., lbs (kg)	780-870 (354-395)

PSC-Series Pump Vault

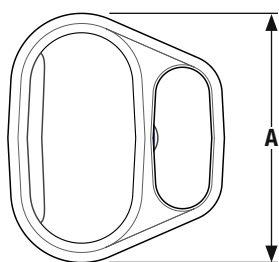
The Prelos 1500 Processor's patent-pending PSC-Series pump vault is designed to be passively self-cleaning for reduced maintenance and service needs, with no need to remove the filter from the Processor for cleaning.

Materials of Construction

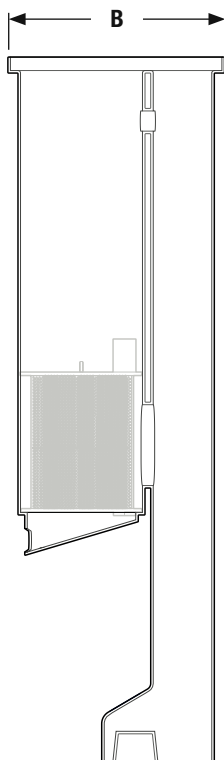
Vault body	Polyethylene
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Vault Dimensions

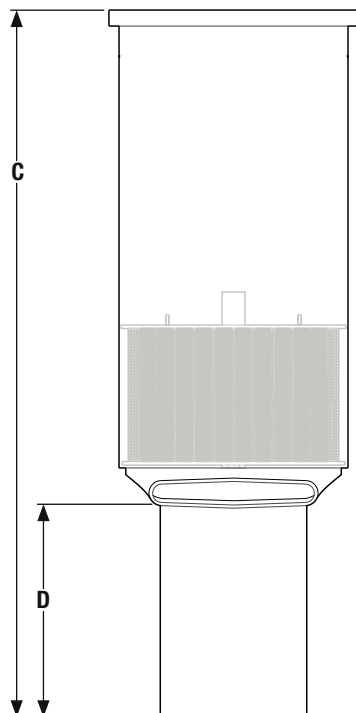
	in. (mm)
A	18.5 (470)
B	14.56 (370)
C	52.5 (1334)
D	16.94 (430)



Pump vault,
top view



Pump vault,
side-cutaway view



Pump vault,
front view

PSC-Series Biotube[®] Effluent Filter

The Prelos 1500 Processor's PSC-Series Biotube[®] effluent filter is designed for effective filtration of effluent and passive self-cleaning for long maintenance cycle intervals.

Materials of Construction

End plates	DCPD
Filter tubes	Polypropylene
Handle assembly	Sch. 40 PVC
Screws	Stainless steel

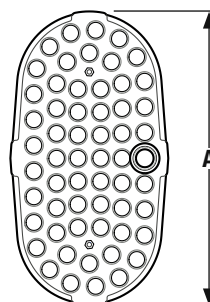
Dimensions

	in. (mm)
A	16.31 (414)
B	10.0 (254)

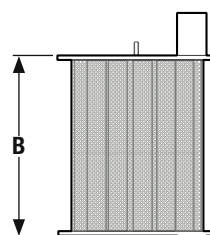
Performance

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)

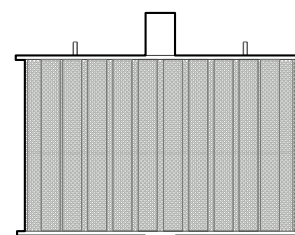
*0.062-in. (1.6-mm) filter mesh available



Filter cartridge,
top view



Filter cartridge,
side view



Filter cartridge,
front view

4-in. (100-mm) Effluent Pump

Prelos 1500 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

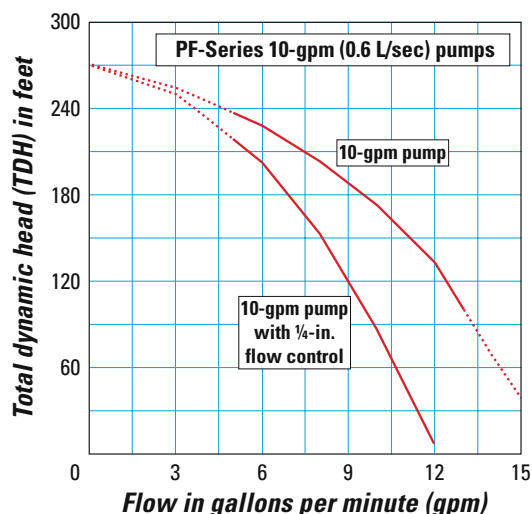
hp (kW)	Design flow amps	Rated cycles/day	Min liquid level, in. (mm) ²
0.5 (0.37)	12.7	300	16 (406)

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

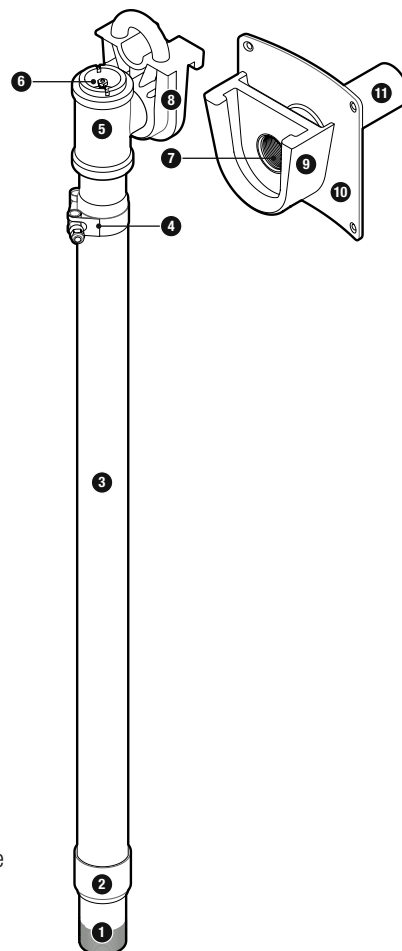
Prelos 1500 Processors use Orenco's HDA-Series discharge assemblies for durability and ease of maintenance.

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 Discharge nipple
- 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 1500 Processors are UL-listed and CSA-certified for use in water or sewage.

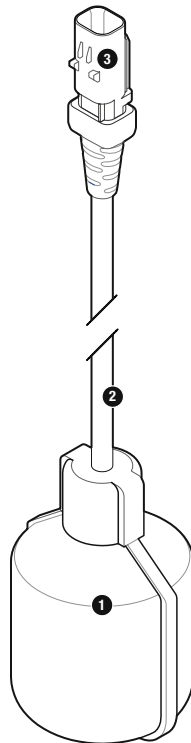
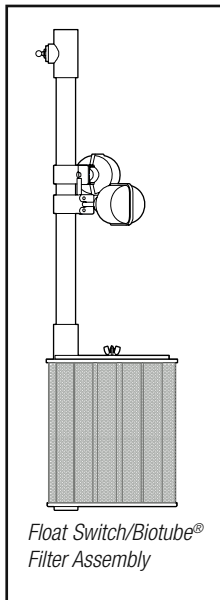
To simplify accessing and servicing, the float switch assembly has been incorporated into the Biotube filter handle.

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



- ① Float switch
- ② Float switch cord
- ③ Float switch connector

ClickTight™ mechanical float switch

ClickTight™

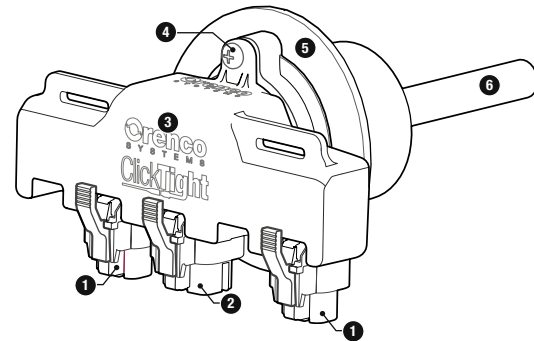
Orenco's ClickTight™ provides secure, moisture-resistant cable connections between the pump, float switches, and control panel in the Prelos 1500 Processor. ClickTight is UL-listed for the US and Canada.

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)



- ① Float input connector
- ② Pump input connector
- ③ ClickTight housing
- ④ Stainless steel fastener
- ⑤ Mounting flange
- ⑥ Cable

ClickTight

S1HR Control Panel

The Prelos 1500 Processor uses Orenco's S1HR control panel, which is ideal for Prelos Sewers and other effluent sewer applications.

Materials of Construction

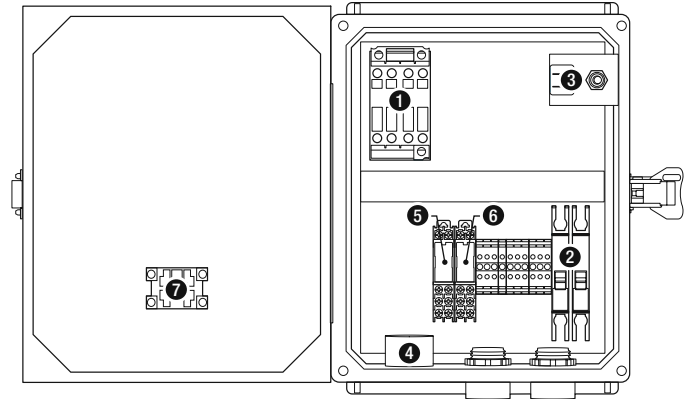
Enclosure	UV-resistant fiberglass, UL Type 4X
Hinges	Stainless steel

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



- ❶ Motor-start contactor
- ❷ Circuit breakers
- ❸ Toggle switch
- ❹ Audio alarm
- ❺ Redundant high-on relay
- ❻ Audio alarm silence relay
- ❼ Visual alarm

S1HR control panel