

**Orenco®** | *General Onsite Wastewater Products*

*Product Catalog*



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[www.orenco.com/product\\_catalogs](http://www.orenco.com/product_catalogs)

## *To Our Customers*

Thank you for the opportunity to introduce you to the products we design and manufacture for general onsite wastewater applications.

Whether you need risers and lids, tank adapters, pump basins, effluent filters, splice boxes, or control panels, Orenco's line of General Onsite Products offers many advantages. They're carefully engineered, durable, reliable, and competitively priced. Of course, we're also proud of our pre-sales and post-sales technical support, which many people say is the best in the industry.

The purpose of this catalog is to show you the full range of Orenco's product offerings for general onsite wastewater needs. Your local distributor and Orenco's sales staff are ready to assist you with product selection to help you place your order.

In addition to the General Onsite Products shown in this catalog, Orenco sells complete pump packages, advanced treatment systems, and control panels and monitoring products, as well as effluent sewer components and supplies. Please call us at 800-348-9843 (toll free) or +1-541-459-4449 (international) or visit [www.orenco.com](http://www.orenco.com) for assistance.

We appreciate your business and look forward to serving you.

## *Using This Catalog*

This catalog is an excellent technical resource for Orenco's General Onsite Products. It is organized by "product families." And the families are organized (roughly) by the "flow path" of the system's wastewater flows, starting with risers and lids and ending with alarm panels and miscellaneous products.

Each section of the catalog covers a specific group of products. With products that have several standard options, you'll find a sample of our more popular models listed at the end of product descriptions. For a number of key products, you'll also find "product code diagrams" at the back of the catalog, under "Product Ordering Information."

Orenco has thousands of products and product variants. For information on the full range of our standard options, as well as pricing, contact your Distributor.

## *Additional Catalogs*

Orenco has two additional wastewater catalogs:

- Wastewater Pumping Products
- Controls & Monitoring Products

If you would like to order a hard copy version of any Orenco catalog, go to the "Request Literature" page of Orenco's website to place your order: [http://www.orenco.com/corporate/request\\_lit.cfm](http://www.orenco.com/corporate/request_lit.cfm)

## *Online Catalogs*

Downloadable versions of all Orenco's catalogs are available on Orenco's website: [http://www.orenco.com/product\\_catalogs](http://www.orenco.com/product_catalogs).

## *About Orenco*

Orenco was founded in 1981 to respond to widespread failures in onsite wastewater systems. Orenco designs and manufactures onsite and decentralized wastewater products for individual properties and small communities.

Our wastewater solutions include tanks, in-tank pumping and filtration systems (effluent filters, pump vaults, pumping packages), secondary treatment systems (textile filters, sand filters), collection systems (effluent-only sewers), controls and monitoring products, and accessory items. Our products and systems allow treated effluent to be returned harmlessly to the environment via drainfield, subsurface irrigation, or surface discharge.

We maintain an environmental lab and invest in a continuing research program. Our research and technologies appear in numerous publications, including Metcalf and Eddy's *Wastewater Engineering: Treatment, Disposal, Reuse* and Crites and Tchobanoglous's *Small and Decentralized Wastewater Treatment Systems*. Our engineers are regularly asked to give workshops, and our products and systems have been installed in more than 70 countries around the world.

With about 300 employees and 300 points of distribution in North and South America, Australia, New Zealand, Europe, Africa, and the Middle East, Orenco has become the onsite wastewater industry leader. Research, product development, manufacturing, and sales support are headquartered at our 26-acre (10.5 ha) facility in Sutherlin, Oregon, USA.

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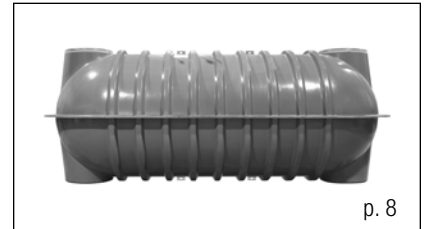
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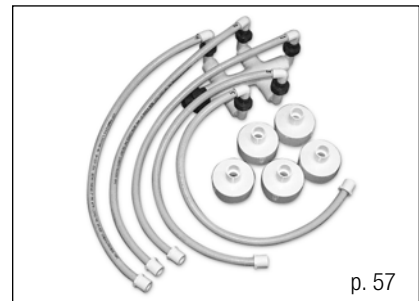
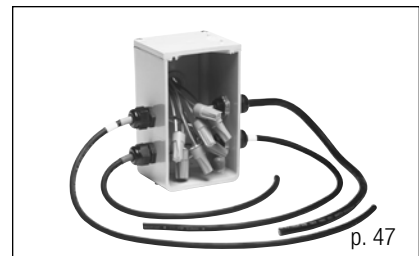
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## Terms and Conditions

## Warranties

## Notes

# Fiberglass Tanks

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Fiberglass tanks manufactured by Orenco® are watertight, lightweight, durable tanks optimized for use in onsite wastewater collection and treatment systems for residential, multi-family, or commercial applications as well as for community-wide effluent sewer systems. Orenco fiberglass tanks provide primary wastewater treatment, reducing wastewater contaminants by 65-70%.

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## **Fiberglass Tanks**

### **1000-Gallon (3785-L) Fiberglass Tanks (T1000)**

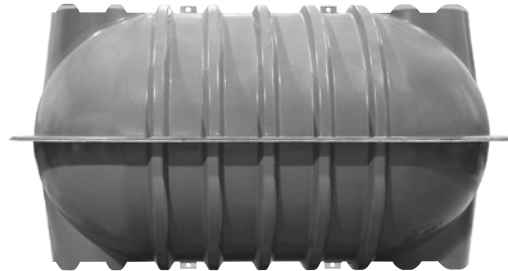
Orenco's 1000-gallon (3785-L) fiberglass tanks are designed for underground use in onsite residential and commercial wastewater collection and treatment systems, community-wide effluent sewer systems, grease tanks, and non-potable rainwater collection. When used as a septic tank or interceptor tank, primary treatment occurs in the tank as organic matter is collected and digested, reducing wastewater contaminants by 65-70%.

- Durable, lightweight FRP construction
- Injection-molded for part consistency and quality
- 100% watertight — factory-tested before shipping
- 1210 gallons (4580 L) total tank volume
- Ribbed design and baffle wall for use as a two-compartment tank in various volumes
- Transportable by light truck
- Installable by small backhoe or excavator
- 48-inch (1219-mm) burial depth, empty
- Direct-fit for 24-inch (600-mm) Orenco access risers
- Adapter available for 30-inch (750-mm) access risers
- IAPMO approved for septic tanks and grease tanks
- Not approved for use with potable water

#### **Sample Product Code\***

- T1000-01-19/19-11/13 — 1000-gallon (3785-L) fiberglass tank, single-compartment, 19-inch (483-mm) access riser openings, 11-inch (279-mm) inlet, 13-inch (330-mm) outlet

*\* For the full range of available product options, contact your local Orenco Distributor or Orenco.*



*1000-Gallon (3785-L) Fiberglass Tank*

## **Fiberglass Tanks**

### **1500-Gallon (5678-L) Fiberglass Tanks (T1500)**

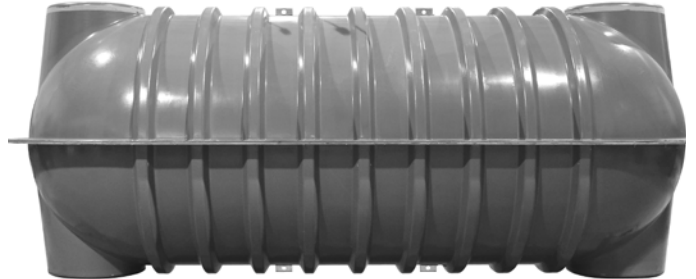
Orenco's 1500-gallon (5678-L) fiberglass tanks are designed for underground use in onsite residential and commercial wastewater collection and treatment systems, community-wide effluent sewer systems, grease tanks, and non-potable rainwater collection. When used as a septic tank or interceptor tank, primary treatment occurs in the tank as organic matter is collected and digested, reducing wastewater contaminants by 65-70%.

- Durable, lightweight FRP construction
- Injection-molded for part consistency and quality
- 100% watertight — factory-tested before shipping
- 1800 gallons (6813 L) total tank volume
- Ribbed design and baffle wall for use as a two-compartment tank in various volumes
- Transportable by light truck
- Installable by small backhoe or excavator
- 48-inch (1219-mm) burial depth, empty
- Direct-fit for 24-inch (600-mm) Orenco access risers
- Adapter available for 30-inch (750-mm) access risers
- IAPMO approved for septic tanks and grease tanks
- Not approved for use with potable water

#### **Sample Product Codes\***

- T1500-23-20/22-11 — 1500-gallon (5678-L) fiberglass tank, two-compartment tank with baffle at third rib, 20-inch and 22-inch (508-mm and 559-mm) access riser openings, 11-inch (279-mm) inlet
- T1500-23-19/19-11/13 — 1500-gallon (5678-L) fiberglass tank, two-compartment tank with baffle at third rib, 19-inch (483-mm) access riser openings, 11-inch (279-mm) inlet, 13-inch (330-mm) outlet

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.



*1500-Gallon (5678-L) Fiberglass Tank*

## **Fiberglass Tanks**

### **2000-Gallon (7570-L) Fiberglass Tanks (T2000)**

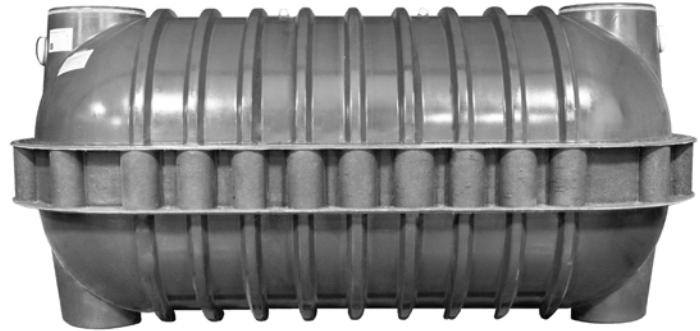
Orenco's 2000-gallon (7570-L) fiberglass tanks are designed for underground use in onsite residential and commercial wastewater collection and treatment systems, community-wide effluent sewer systems, grease tanks, and non-potable rainwater collection. When used as a septic tank or interceptor tank, primary treatment occurs in the tank as organic matter is collected and digested, reducing wastewater contaminants by 65-70%. 2000-gallon fiberglass tanks are available fully assembled.

- Durable, lightweight FRP construction
- Injection-molded for part consistency and quality
- 100% watertight — factory-tested before shipping
- 2300 gallons (8706 L) total tank volume
- Ribbed design and baffle wall for use as a two-compartment tank in various volumes
- Transportable by light truck
- Installable by small backhoe or excavator
- 48-inch (1219-mm) burial depth, empty
- Direct-fit for 24-inch (600-mm) Orenco access risers
- Adapter available for 30-inch (750-mm) access risers
- IAPMO approved for septic tanks
- Not approved for use with potable water

#### **Sample Product Codes\***

- T2000-2-C — 2000-gallon (7570-L) fiberglass tank, two-compartment, custom build

*\* For the full range of available product options, contact your local Orenco Distributor or Orenco.*



*2000-Gallon (7570-L) Fiberglass Tank*



## Fiberglass Tanks

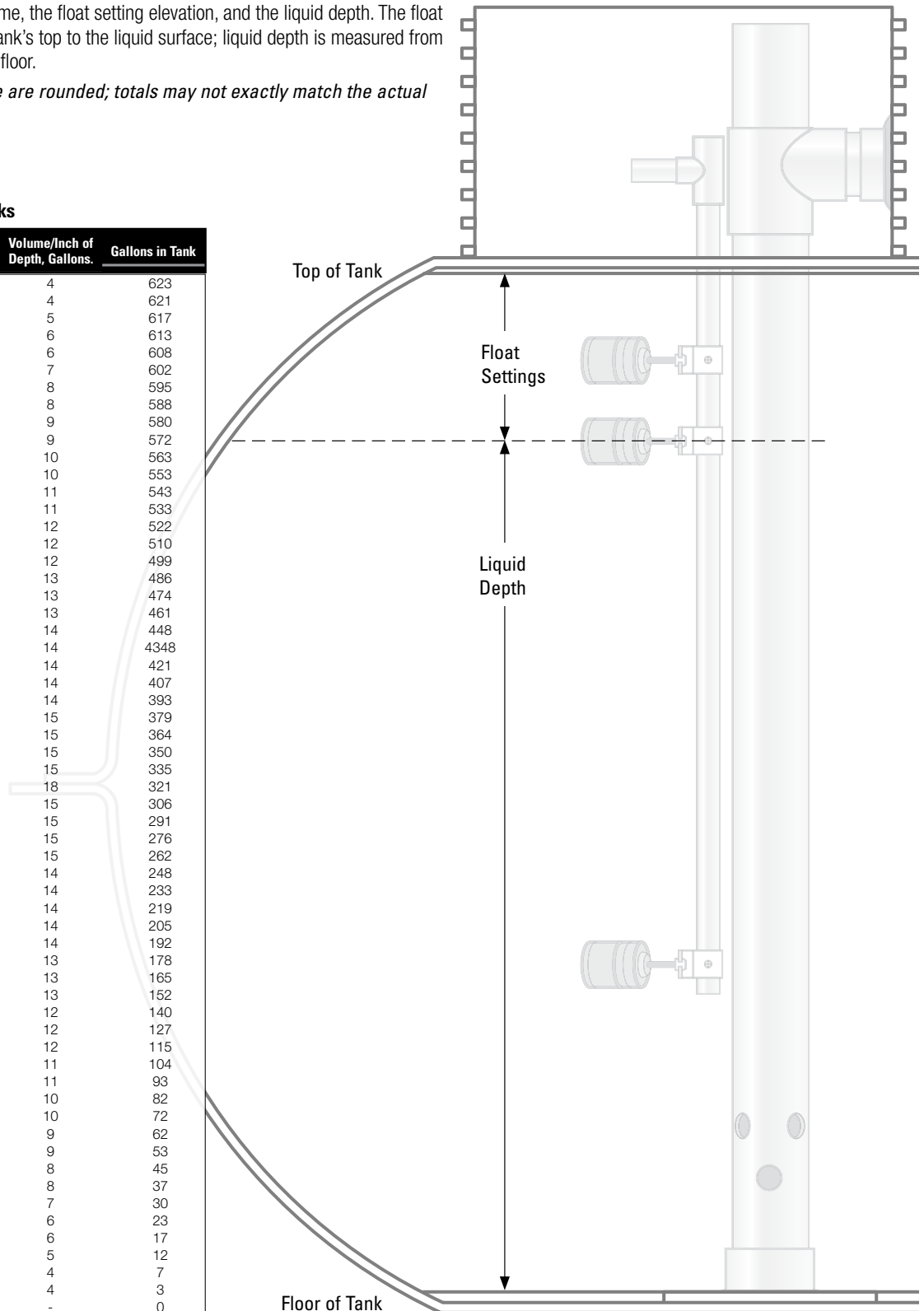
### Fiberglass Tank Volume per Unit of Liquid Depth: 500-Gallon Tanks

All Orenco® 500-gallon tanks are single-compartment tanks. The table below shows the relationship between tank volume, the float setting elevation, and the liquid depth. The float setting is measured from the tank's top to the liquid surface; liquid depth is measured from the liquid surface to the tank's floor.

**NOTE:** Data used in this table are rounded; totals may not exactly match the actual total volume of your tank.

Liquid Depth: 500-Gallon Tanks

Liquid Depth, Inches	Float Setting, Inches	Volume/Inch of Depth, Gallons.	Gallons in Tank
59	Top	4	623
58	1	4	621
57	2	5	617
56	3	6	613
55	4	6	608
54	5	7	602
53	6	8	595
52	7	8	588
51	8	9	580
50	9	9	572
49	10	10	563
48	11	10	553
47	12	11	543
46	13	11	533
45	14	12	522
44	15	12	510
43	16	12	499
42	17	13	486
41	18	13	474
40	19	13	461
39	20	14	448
38)	21	14	4348
37	22	14	421
36	23	14	407
35	24	14	393
34	25	15	379
33	26	15	364
32	27	15	350
31	28	15	335
30	29	18	321
29	30	15	306
28	31	15	291
27	32	15	276
26	33	15	262
25	34	14	248
24	35	14	233
23	36	14	219
22	37	14	205
21	38	14	192
20	39	13	178
19	40	13	165
18	41	13	152
17	42	12	140
16	43	12	127
15	44	12	115
14	45	11	104
13	46	11	93
12	47	10	82
11	48	10	72
10	49	9	62
9	50	9	53
8	51	8	45
7	52	8	37
6	53	7	30
5	54	6	23
4	55	6	17
3	56	5	12
2	57	4	7
1	58	4	3
Floor	59	-	0



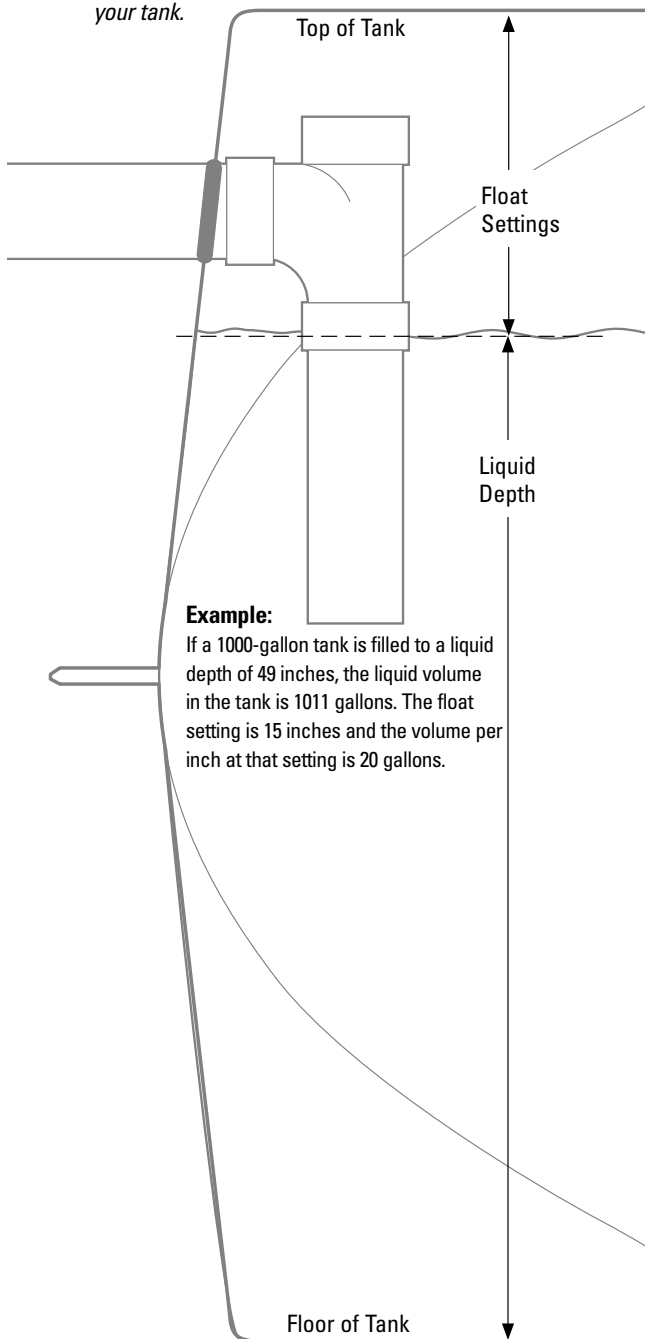
## Fiberglass Tanks

### Fiberglass Tank Volume per Unit of Liquid Depth: 1000-, 1500- and 2000-Gallon Tanks

These tables show the relationship between tank volume, the float setting elevation, and the liquid depth of the tank. The float setting is measured from the top of the tank to the liquid surface; liquid depth is measured from the liquid surface to the floor of the tank.

**Liquid Depth: 1000- and 1500-Gallon Tanks**

*NOTE: Data used in the tank volume tables are rounded; totals may not exactly match the actual total volume of your tank.*



Liquid Depth, Inches	Float Setting, Inches	1000-Gallon Tank		1500-gal. Tank	
		Volume Per In. of Depth, Gal.	Gallons in Tank	Volume Per In. of Depth, Gal.	Gallons in Tank
64	Top	26	1210	19	1800
63	—	—	—	—	—
62	—	—	—	—	—
61	—	—	—	16	—
60	4	—	1184	17	1765
59	5	11	1173	18	1748
58	6	12	1161	21	1730
57	7	13	1148	22	1709
56	8	14	1134	23	1687
55	9	15	1119	24	1664
54	10	16	1103	25	1640
53	11*	17	1086	26	1615
52	12	17	1069	28	1589
51	13**	19	1050	29	1561
50	14	19	1031	30	1532
49	15	20	1011	31	1502
48	16	20	991	32	1471
47	17	21	970	32	1439
46	18	22	948	33	1407
45	19	22	926	34	1374
44	20	23	903	35	1340
43	21	23	880	35	1305
42	22	23	857	36	1270
41	23	24	833	36	1234
40	24	24	809	36	1198
39	25	24	785	36	1162
38	26	25	760	37	1126
37	27	25	735	37	1089
36	28	26	709	37	1052
35	29	26	683	38	1015
34	30	26	657	38	977
33	31	26	631	39	939
32	32	26	605	39	900
31	33	26	579	38	861
30	34	26	553	38	823
29	35	26	527	37	785
28	36	26	501	37	748
27	37	26	475	37	711
26	38	25	450	36	674
25	39	25	425	36	638
24	40	24	401	36	602
23	41	24	377	36	566
22	42	24	353	35	530
21	43	23	330	35	495
20	44	23	307	34	460
19	45	23	284	33	426
18	46	22	262	32	393
17	47	21	240	32	361
16	48	20	219	31	329
15	49	20	199	30	298
14	50	19	179	29	268
13	51	19	160	28	239
12	52	17	141	26	211
11	53	17	124	25	185
10	54	16	107	24	160
9	55	15	91	23	136
8	56	14	76	22	113
7	57	13	62	21	91
6	58	12	49	18	70
5	59	11	37	17	52
4	60	—	26	16	35
3	—	—	—	19	—
2	—	—	—	—	—
1	—	—	—	—	—
Floor	—	—	0	—	0

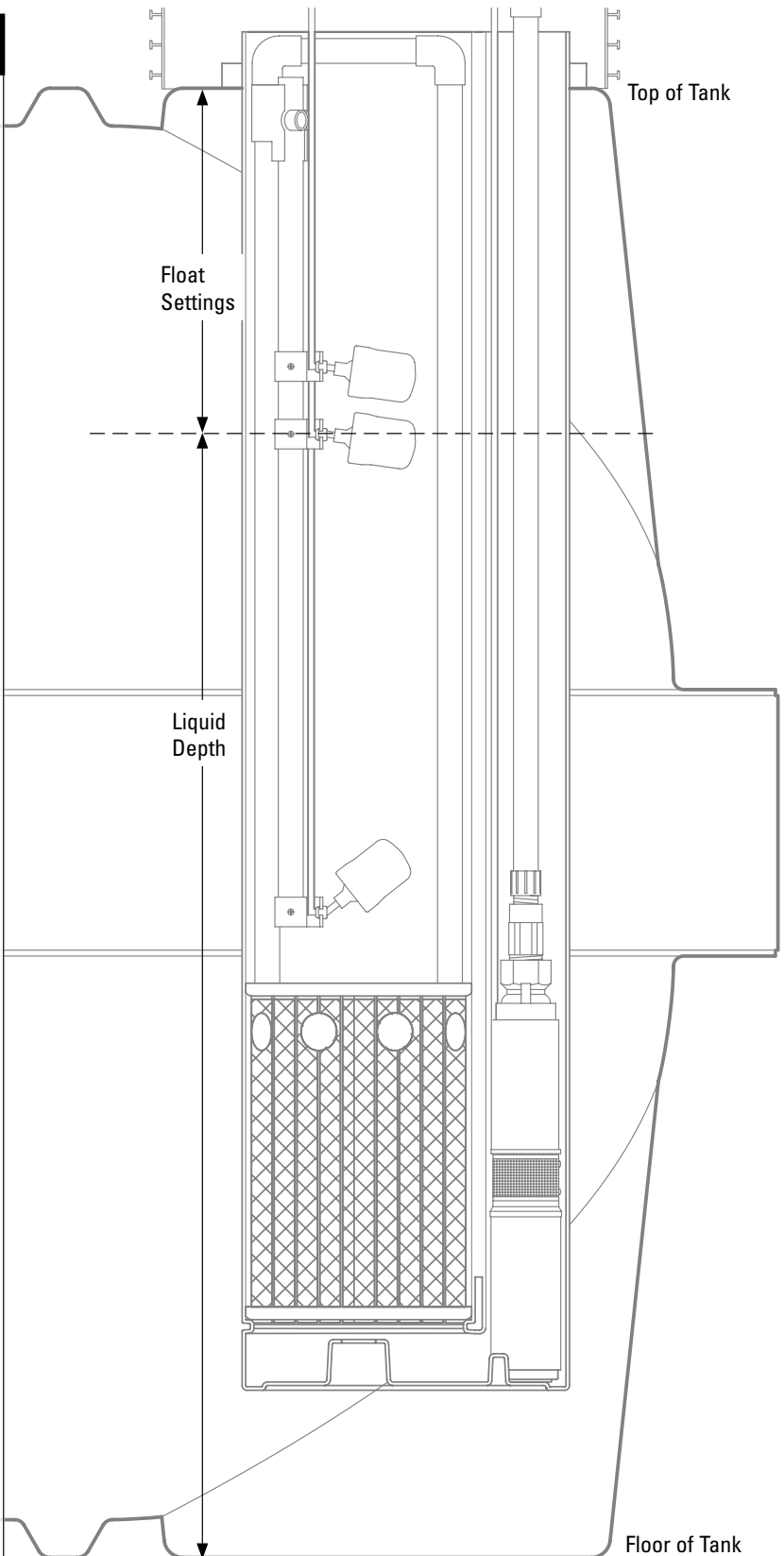
\* The invert of inlet is typically set 11 inches down from the top of the tank, or in accordance with prevailing state or local regulations.

\*\* For gravity discharge applications, the invert of the outlet is typically located 13 inches down from the top of the tank.

## Fiberglass Tanks

### Liquid Depth: 2000-Gallon Tanks

Liquid Depth, Inches	Float Setting, Inches	Volume Per In. of Depth, Gal..	Gallons in Tank
78	Top	—	2300
77	—	—	—
76	—	—	—
75	3	—	—
74	4	16	2260
73	5	17	2244
72	6	18	2227
71	7	21	2209
70	8	22	2188
69	9	23	2166
68	10	24	2143
67	11	25	2119
66	12	26	2094
65	13	28	2068
64	14	29	2040
63	15	30	2011
62	16	31	1981
61	17	32	1950
60	18	32	1918
59	19	33	1886
58	20	34	1853
57	21	35	1819
56	22	35	1784
55	23	36	1749
54	24	36	1713
53	25	36	1677
52	26	36	1641
51	27	37	1605
50	28	37	1568
49	29	37	1531
48	30	38	1494
47	31	38	1456
46	32	39	1418
45	33	37	1381
44	34	37	1344
43	35	37	1307
42	36	37	1270
41	37	37	1233
40	38	37	1196
39	39	37	1159
38	40	37	1122
37	41	37	1085
36	42	37	1048
35	43	37	1011
34	44	37	974
33	45	37	937
32	46	38	900
31	47	38	861
30	48	38	822
29	49	37	785
28	50	37	748
27	51	37	711
26	52	36	674
25	53	36	638
24	54	36	599
23	55	36	566
22	56	35	530
21	57	35	495
20	58	34	460
19	59	33	426
18	60	32	392
17	61	32	361
16	62	31	329
15	63	30	298
14	64	29	268
13	65	28	239
12	66	26	211
11	67	25	185
10	68	24	160
9	69	23	136
8	70	22	113
7	71	21	91
6	72	18	71
5	73	17	52
4	74	16	35
3	75	—	—
2	—	—	—
1	—	—	—
Floor	78	—	0



# Access Risers and Accessories

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Orenco® PVC Access Risers provide access to tanks and components in water and wastewater systems. They can be cast into the tops of concrete tanks, bonded to a concrete or fiberglass tank with epoxy, or bolted down to a concrete tank with an adapter and bolt-down kit. In addition to providing risers, Orenco also offers riser accessories including grade rings, grade ring inserts, and riser-to-lid adapters, as well as tools for cutting risers squarely and cutting grommet holes.

Orenco strongly recommends that all tank risers 12-in. (300-mm) and larger in diameter be equipped with riser safety grates to help prevent accidental or unauthorized entry.

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## Access Risers and Accessories

### Ultra-Rib™ Access Risers (RR, RU, RPU)

Ultra-Rib™ PVC access risers are used to provide access to tanks and also used as valve enclosures in water and wastewater systems. Bulk quantities are available.

- PVC construction
- Concentric rib design
- Available in 12-inch, 18-inch, 21-inch, and 24-inch nominal diameters (300-mm, 450-mm, 525-mm, and 600-mm DN)
- Heights available in 3-inch (76-mm) nominal increments to 13 feet (3.96 m) for 12-inch and 18-inch nominal diameter (300-mm and 450-mm DN) risers and 14 feet (4.27 m) for 21-inch and 24-inch nominal diameter (525-mm and 600-mm DN) risers
- Bulk pipe available in 13-foot (3.96-m) sections for 12-inch and 18-inch nominal diameter (300-mm and 450-mm DN) pipe and 14-foot (4.27-m) sections for 21-inch and 24-inch nominal diameter (525-mm and 600-mm DN) pipe



*Ultra-Rib Access Risers*

#### Sample Product Codes\*

- RR12XX — 12-inch nominal diameter (300-mm DN), XX = length to 13 feet (3.96 m) in 3-inch (76-mm) nominal increments
- RU18XX — 18-inch nominal diameter (450-mm DN), XX = length to 13 feet (3.96 m) in 3-inch (76-mm) nominal increments
- RR21XX — 21-inch nominal diameter (525-mm DN), XX = length to 14 feet (4.27 m) in 3-inch (76-mm) nominal increments
- RR24XX — 24-inch nominal diameter (600-mm DN), XX = length to 14 feet (4.27 m) in 3-inch (76-mm) nominal increments
- RPU12 — 12-inch nominal diameter (300-mm DN), bulk riser pipe
- RPU18 — 18-inch nominal diameter (450-mm DN), bulk riser pipe
- RPU24 — 24-inch nominal diameter (600-mm DN), bulk riser pipe

*\*For the full range of standard options, see the "Product Ordering Information" section in this catalog.*

**Orenco strongly recommends that all tank risers 12-in. (300-mm) and larger in diameter be equipped with riser safety grates to help prevent accidental or unauthorized entry.**

## Access Risers and Accessories

### Kor-Flo™ Access Risers (RR, RP)

Kor-Flo™ PVC access risers are used to provide access to tanks and also used as valve enclosures in water and wastewater systems. Bulk pipe quantities are available. Bolt catches are available for securing Orenco DuraFiber™ or FL-Series fiberglass lids to them.

- PVC construction
- Double-walled rib design
- Available in 30-inch nominal diameter (750-mm DN)
- Riser heights to 12 feet (3.66 m) available in 2-inch (50-mm) nominal increments
- Bulk pipe available in 13-foot (3.96-m) sections

#### Sample Product Codes\*

- RR30XX — 30-inch nominal diameter (750-mm DN) access riser, XX = length to 12 feet (3.66 m) in 2-inch (50-mm) nominal increments
- RP30 — 30-inch nominal diameter (750-mm DN) bulk riser pipe

\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.

Orenco strongly recommends that all tank risers 12-in. (300-mm) and larger in diameter be equipped with riser safety grates to help prevent accidental or unauthorized entry.

### Small-Diameter Access Risers (RR, RA)

Orenco® small-diameter access risers are used as valve enclosures, inspection ports, and service connection risers. For 12-inch (300-mm) Ultra-Rib™ access risers, see "Ultra-Rib Access Risers" in this catalog.

- Class 63 IPS construction on 8-inch nominal diameter (200-mm DN) small-diameter access risers
- Plastic Irrigation Pipe (PIP) construction on 15-inch nominal diameter (375-mm DN) small-diameter access risers
- Riser heights available in 3-inch (76-mm) increments

#### Sample Product Codes\*

- RR08XX — small-diameter IPS access riser, lid bolt catches installed, XX = length to 13 feet (3.96 m) in 3-inch (76-mm) increments
- RA08XX — small-diameter IPS access riser, no bolt catches installed, XX = length to 13 feet (3.96 m) in 3-inch (76-mm) increments

\* For the full range of available product options, see the "Product Ordering Information" section in this catalog.



*Kor-Flo™ 30-inch (750-mm) Access Riser*



*8-inch Smooth Access Riser*

## Access Risers and Accessories

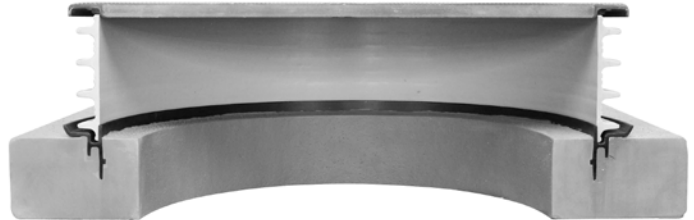
### Riser Tank Adapters (FRTA, PRTA, RRFTA)

Orenco® Riser Tank Adapters provide a structural, watertight method of installing an access riser over a tank opening. Depending on the Riser Tank Adapter model, they can be cast into the top of a concrete tank, bonded to a tank with adhesive, or mechanically fastened to a tank with an adapter bolt-down kit.

- Watertight installation
- Durable, corrosion-resistant materials
- Bolt-down kits available for applicable models

#### Product Codes

- FRTA30-FRP — adhesive-mount riser tank adapter for installing 30-inch nominal diameter (750-mm DN) access risers onto Orenco fiberglass tanks
- FRTA36 — cast-in or bolt-down riser tank adapter for 36-inch nominal diameter (900-mm DN) access risers
- PRTA-08 — cast-in riser tank adapter for 8-inch nominal diameter (200-mm DN) inspection ports
- PRTA24 — bolt-down riser tank adapter for 24-inch nominal diameter (600-mm DN) access risers
- PRTA24-2 — cast-in riser tank adapter for 24-inch nominal diameter (600-mm DN) access risers
- PRTA30 — cast-in or bolt-down riser tank adapter for 30-inch nominal diameter (750-mm DN) access risers
- RRFTA — bolt-down riser tank adapter for 21-inch and 24-inch nominal diameter (575-mm and 600-mm DN) access risers
- RRFTA30 — bolt-down riser tank adapter for 30-inch nominal diameter (750-mm DN) access risers



*PRTA24-2 Cast-In Tank Adapter*



*FRTA30-FRP Tank Adapters*



*PRTA30 Tank Adapters*

## **Access Risers and Accessories**

### **Roth Tank Adapters (FRTA)**

Orenco® Roth Tank Adapters provide a structural, watertight method of installing an access riser over a tank opening in a Roth MultiTank®. A bolt-down kit is ordered separately (see “Product Codes” below).

- Specifically designed for Roth MultiTank septic tanks
- Durable fiberglass design
- Watertight connection between adapter and riser with a single adhesive bead

#### **Product Codes**

- FRTA24-RVF — bolt-down Roth tank adapter for 24-inch nominal diameter access risers (600-mm DN)
- FRTA24-R-MNH — bolt-down Roth tank access cover
- FRTA24-RBDKIT — bolt down kit; includes butyl tape and stainless steel fasteners



*FRTA24-RVF Roth Tank Adapter*

### **Adapter Bolt-Down Kits (PRTA, RRFTA, RUBD)**

Orenco® Adapter Bolt-Down Kits provide everything necessary for a secure, watertight connection between a concrete tank and a bolt-down tank adapter for an access riser.

- Corrosion-resistant stainless steel anchors
- Butyl tape for watertight joints
- Stainless steel hold-down straps for Ultra-Rib™ access risers

#### **Product Codes**

- PRTA24BDKIT — for attaching a PRTA24 Riser Tank Adapter
- PRTA30BDKIT — for attaching a PRTA30 Riser Tank Adapter
- RRFTABDKIT — for attaching an RRFTA Riser Tank Adapter
- RRFTA30BDKIT — for attaching an RRFTA30 Riser Tank Adapter
- RUBDKIT — for attaching an Ultra-Rib access riser; two kits are required for each 24-inch nominal diameter (600-mm DN) access riser



*Orenco Bolt-Down Kits*



## Access Risers and Accessories

### Grade Rings and Grade Ring Inserts (GR, GRI)

Orenco® Grade Rings are used to provide a watertight extension to the height of an existing access riser or pump basin; they are constructed of an Orenco Grade Ring Insert and a section of ribbed PVC riser pipe. Grade Ring Inserts can also be purchased separately.

- PVC ribbed riser material
- PVC construction on inserts for 12-inch and 18-inch nominal diameter (300-mm and 450-mm DN) riser pipe
- ABS construction on inserts for 21-inch, 24-inch, and 30-inch nominal diameter (525-mm, 600-mm, and 750-mm DN) riser pipe

#### Sample Product Codes\*

- PRTA24-2 — grade ring insert for 24-inch nominal diameter (600-mm DN) riser pipe
- GRI24 — grade ring insert for 24-inch nominal diameter (600-mm DN) riser pipe
- GRI30 — grade ring insert for 30-inch nominal diameter (750-mm DN) riser pipe
- GR18XX — grade ring, 18-inch nominal diameter (450-mm DN), XX = height in 3-inch (76-mm) increments
- GR24XX — grade ring, 24-inch nominal diameter (600-mm DN), XX = height in 3-inch (76-mm) increments
- GR30XX — grade ring, 30-inch nominal diameter (750-mm DN), XX = height in 3-inch (76-mm) increments

\*For the full range of available product options, see the "Product Ordering Information" section in this catalog.

### Riser-to-Lid Adapters (RLA)

Orenco® Riser-to-Lid Adapters (RLAs) are used to provide a simple, secure, watertight method of attaching an Orenco Fiberglass Access Lid to a ribbed PVC access riser. RLAs are especially useful when the top of the riser is uneven or has a damaged edge.

- ABS construction
- Fits 24-inch or 30-inch nominal diameter (600-mm or 750-mm DN) Ultra-Rib™ or Perma-Loc™ riser pipe
- Fits all 24-inch (600-mm) Orenco Fiberglass Access Lids
- RLA30 is compatible with Orenco FLF-Series 30-inch (750-mm) lids; it is not compatible with Orenco DuraFiber™ 30-inch (750-mm) lids
- Ideal for uneven risers or damaged riser edges
- Bolt holes pre-drilled in RLA24

#### Product Codes

- RLA24 — riser-to-lid adapter, 24-inch nominal diameter (600-mm DN), pre-drilled bolt holes
- RLA30 — riser-to-lid adapter, 30-inch nominal diameter (750-mm DN)



Orenco® Grade Ring Inserts



RLA24 Riser-to-Lid Adapter

## Access Risers and Accessories

### Insulation Plugs (INS)

Orenco® Insulation Plugs are used to protect septic system components — contained in the riser — from freezing during cold weather.

- R30 insulation value
- Stackable for greater insulation
- Sized to fit inside of a 24-inch or 30-inch nominal diameter (600-mm or 750-mm DN) access riser
- Watertight shell
- Polyethylene strap for easy removal

#### Product Codes

- INS246 — insulation plug for 24-inch nominal diameter (600-mm DN) access risers, 6-inch (152-mm) thickness
- INS306 — insulation plug for 30-inch nominal diameter (750-mm DN) access risers, 6-inch (152-mm) thickness



*INS246 Insulation Plug*

### Riser Safety Grates (RG)

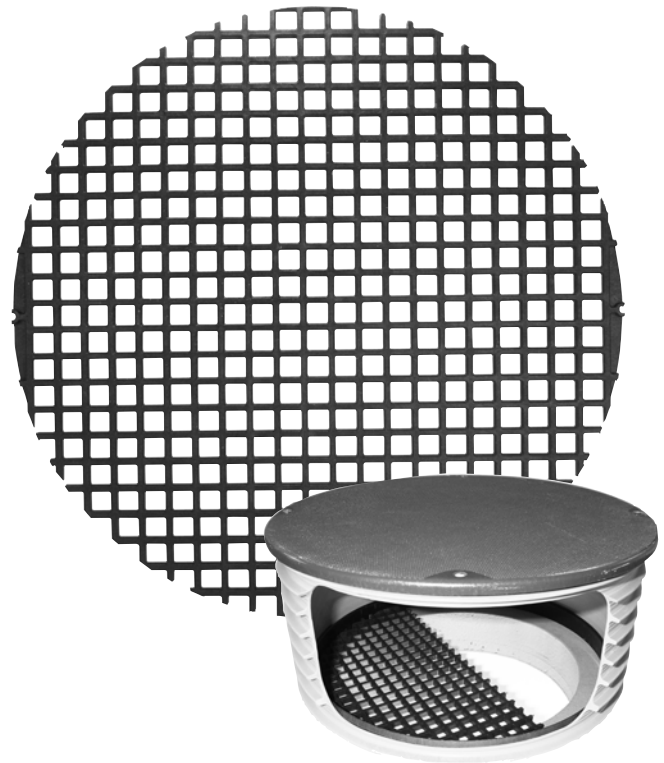
Orenco® Riser Safety Grates rest on the flange at the bottom of an access riser to help prevent people or tools from falling into a tank. They are also used to prevent soil buildup in the bottoms of valve boxes. Orenco Riser Safety Grates are sized to fit Ultra-Rib™, Perma-Loc™, Kor-Flo™, and equivalent risers.

- Polypropylene construction
- Non-corroding
- Easy to install
- Sizes available for 12-inch, 18-inch, 21-inch, and 24-inch nominal diameter risers (300-mm, 450-mm, 525-mm, and 600-mm DN)
- Fits most brands of ribbed riser pipe

#### Product Codes

- RG12 — riser safety grate for 12-inch nominal diameter risers (300-mm DN)
- RG18 — riser safety grate for 18-inch nominal diameter risers (450-mm DN)
- RG21 — riser safety grate for 21-inch nominal diameter risers (525-mm DN)
- RG24 — riser safety grate for 24-inch nominal diameter risers (600-mm DN)

Orenco strongly recommends that all tank risers 12-in. and larger in diameter be equipped with riser safety grates to help prevent accidental or unauthorized entry.



*RG24 installed in 24-inch (600-mm) Riser, Cutaway View*

## Access Risers and Accessories

### Riser-Cutting Saw Guides (RUSJ)

Orenco® Riser-Cutting Saw Guides allow a Skilsaw® Model 77 circular saw to make square cuts between ribs on riser pipe with concentric rings.

- Portable
- Easy to use

#### Product Codes

- RUSJ12 — saw guide for 12-inch nominal diameter (300-mm DN) Ultra-Rib™ riser pipe
- RUSJ — saw guide for 18-inch, 21-inch, and 24-inch nominal diameter (450-mm, 525-mm, and 600-mm DN) Ultra-Rib™ riser pipe

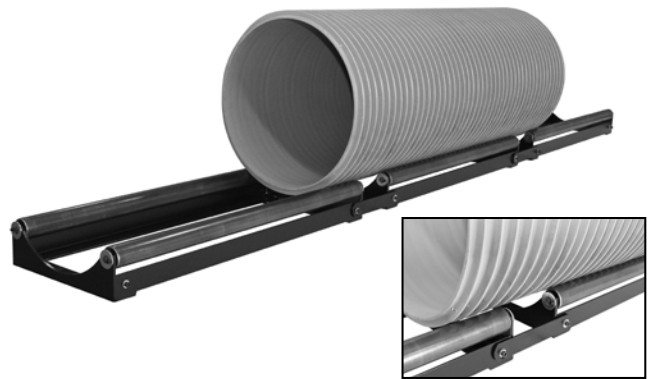


RUSJ Saw Guide

### Riser-Cutting Stations (RR-CUTTING)

Orenco® Riser-Cutting Stations make it easy to cut 18-inch nominal diameter (450-mm DN) or larger riser pipe. For storage, the cutting station breaks down into three pieces.

- Easy to disassemble
- For 18-inch nominal diameter (450-mm DN) and larger riser pipe
- Fits Ultra-Rib™, Perma-Loc™, and Kor-Flo™ riser pipe
- Saws and saw guides ordered separately



Orenco Riser-Cutting Station

#### Product Code

- RR-CUTTING STATION

### Drill Fixtures (RK, RUDJ)

Orenco® Drill Fixtures allow the top edge of a PVC access riser to be drilled for the installation of lid bolts.

- Models for Kor-Flo™ or Ultra-Rib pipe
- Reliable, repeatable, accurate hole placement

#### Sample Product Codes\*

- RK-DRILL FIXTURE — for 36-inch nominal diameter (900-mm DN) Kor-Flo™ risers; allows insertion of bolt catches
- RUDJ24 — for 24-inch nominal diameter (600-mm DN) Ultra-Rib™ pipe



RK-DRILL FIXTURE

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.

## **Access Risers and Accessories**

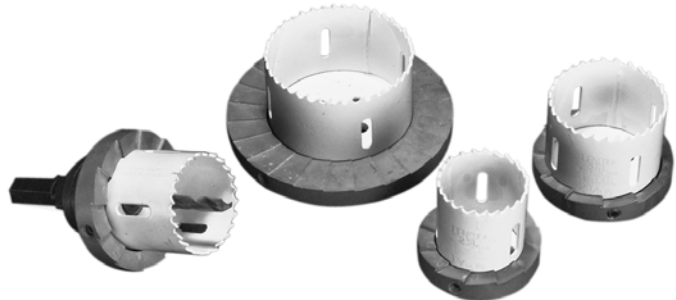
### **Rib-Cutting Hole Saws (RKHS)**

Orenco® Rib-Cutting Hole Saws cut holes in PVC riser pipe and pockets in the pipe ribs at the same time. They eliminate the time it would otherwise require to prep around the hole before installing a grommet.

- Saves time cutting and prepping
- Requires an arbor and a ¼-inch drill bit (RK-ARBOR, RK-DRILL BIT), ordered separately

#### **Product Codes**

- RKHSS075 — ¾-inch (approximately 19-mm) hole saw with cutter for ribbed pipe
- RKHS100 — 1-inch (approximately 25-mm) hole saw with cutter for ribbed pipe
- RKHS125 — 1¼-inch (approximately 32-mm) hole saw with cutter for ribbed pipe
- RKHS150 — 1½-inch (approximately 40-mm) hole saw with cutter for ribbed pipe
- RKHS200 — 2-inch (approximately 50-mm) hole saw with cutter for ribbed pipe



*Orenco Rib-Cutting Hole Saws*

### **Pipe Grommets (G)**

Orenco® Pipe Grommets provide a watertight seal at piping penetrations. Orenco ADH100 Adhesive/Sealant is recommended to assure a watertight seal between the pipe grommet and access riser.

- Grommets conform to standard IPS pipe sizes
- ½-inch to 6-inch IPS (25-mm to 150-mm DN) grommet sizes available

#### **Product Codes**

- G05L — grommet for ½-inch nominal diameter pipe (15-mm DN)
- G07L — grommet for ¾-inch nominal diameter pipe (20-mm DN)
- G1L — grommet for 1-inch nominal diameter pipe (25-mm DN)
- G125L — grommet for 1¼-inch nominal diameter pipe (32-mm DN)
- G150L — grommet for 1½-inch nominal diameter pipe (40-mm DN)
- G2L — grommet for 2-inch nominal diameter pipe (50-mm DN)
- G3L — grommet for 3-inch nominal diameter pipe (80-mm DN)
- G4L — grommet for 4-inch nominal diameter pipe (100-mm DN)
- G6L — grommet for 6-inch nominal diameter pipe (150-mm DN)



*Orenco Pipe Grommets*

## Access Risers and Accessories

### Adhesives and Adhesive Dispensing Guns (ADH, MA)\*

Orenco® Methacrylate Adhesives are available for a variety of products that need bonding or sealing: PVC, ABS, fiberglass, concrete, and rubber. In addition, adhesives are also available in packages of various sizes for jobs small and large. To find the correct adhesive for your application, see the chart below.



#### Product Codes\*\*

- ADH100 — single part adhesive, 10.2-ounce (300-mL) cartridge
- ADHP10 — single part adhesive, 475-mL container
- ADHQ10 — single part adhesive, 950-mL container
- MA320 — two-part adhesive, 200-g packet
- SA510 — two-part adhesive, 600-mL cartridge
- SA530 — two-part adhesive, 600-mL cartridge
- SA590 — two-part adhesive, 600-mL cartridge
- IPS810 — two-part adhesive, 1-pint (473-mL) jar
- MA-MANUAL GUN-600ML — manual dispensing gun for 600-mL SA500-series adhesives
- MA-BATT GUN-600ML — battery-powered dispensing gun for 600-mL SA500-series adhesives

\* For the full range of available adhesive options, contact your local Orenco Distributor or Orenco.

Adhesive	Applications	Working Time	Cure time @ 70° F (21° C)	Physical Description	Product Notes
ADH100	Bonding, sealing; bonds PVC, ABS, fiberglass, seals pipe grommets	4 minutes	Handling strength in 12 hours, full cure in 2-3 days	Opaque, toothpaste	<ul style="list-style-type: none"> <li>• Clean, dry bonding surface required; will sag slightly in warm temperatures. Not formulated for exposure to sunlight. Not intended for structural joints that are primarily in tension, in peel, or in bending</li> <li>• Single-part adhesive; 10.2-oz (300-mL) tube uses standard caulking gun</li> </ul>
MA320	Structural joint bonding; bonds PVC, fiberglass	10-20 minutes	< 1 hour; depends on temperature, adhesive thickness	White, peanut butter	<ul style="list-style-type: none"> <li>• Clean, dry bonding surface required; roughened surfaces recommended for best bonding</li> <li>• Two-part adhesive; supplied in 7-ounce (200-g packets), no dispensing gun required</li> </ul>
SA510	Structural joint bonding; bonds PVC, ABS, fiberglass at low ambient temperatures	10-15 minutes	< 45 minutes; depends on temperature, adhesive thickness	Gray, toothpaste	<ul style="list-style-type: none"> <li>• Clean, dry bonding surface required; roughened surfaces recommended for best bonding. For shorter working times or thinner adhesive beads</li> <li>• Two-part adhesive, 1:1 mix ratio</li> </ul>
SA530	Structural joint bonding; bonds PVC, ABS, fiberglass	20-30 minutes	< 2 hours; depends on temperature, adhesive thickness	Gray, toothpaste	<ul style="list-style-type: none"> <li>• Clean, dry bonding surface required; roughened surfaces recommended for best bonding. For longer working times or thicker adhesive beads; will sag slightly in warm temperatures</li> <li>• Two-part adhesive, 1:1 mix ratio</li> </ul>
SA590	Structural joint bonding; bonds PVC, ABS, fiberglass	80-100 Minutes	< 3 hours; depends on temperature, adhesive thickness	Gray, toothpaste	<ul style="list-style-type: none"> <li>• Clean, dry bonding surface required; roughened surfaces recommended for best bonding. For longer working times or thicker adhesive beads in very warm or hot temperatures; will sag slightly</li> <li>• Two-part adhesive; 1:1 mixing ratio</li> </ul>
IPS 810	Structural joint bonding, self-leveling; bonds PVC, ABS, fiberglass; concrete	~ 30 minutes	~ 2 hours; depends on temperature, adhesive thickness	White, molasses	<ul style="list-style-type: none"> <li>• Self-leveling</li> <li>• Two-part adhesive; 10:1 mixing ratio; requires hand mixing</li> </ul>

\* Contact your local Distributor or Orenco for shipping information or an MSDS sheet on any of Orenco's adhesives.

## Access Risers and Accessories

### Product Recommendations and Quantities

	ADH100 10.2-oz (300-mL) Tube	MA320 7-oz (200-g) Packet	SA510 600-mL Cartridge	SA530 600-mL Cartridge	SA590 600-mL Cartridge	IPS 810 1-pint (473-mL) jar
GR24XX Grade Ring 24-in. (600-mm)	Requires one tube	Requires one packet	Requires 1/3 cartridge*	Requires 1/3 cartridge*	Requires 1/3 cartridge**	N/A
GR30XX Grade Ring 30-in. (750-mm)	Requires two tubes	Requires two packets	Requires 2/3 cartridge*	Requires 2/3 cartridge*	Requires 2/3 cartridge**	N/A
PRTA24 Adapter 24-in. (600-mm)	Requires one tube	Requires one packet	Requires 1/3 cartridge*	Requires 1/3 cartridge*	Requires 1/3 cartridge**	N/A
PRTA24-2 Adapter 24-in. (600-mm)	Requires one tube	Requires one packet	Requires 1/3 cartridge	Requires 1/3 cartridge	Requires 1/3 cartridge**	<1 pint*
PRTA30 Adapter 30-in. (750-mm)	Requires two tubes	Requires two packets	Requires 2/3 cartridge*	Requires 2/3 cartridge*	Requires 2/3 cartridge**	N/A
RRFTA Adapter 24-in. (600-mm)	N/A	N/A	N/A	N/A	N/A	1 pint*

\* Indicates the preferred adhesive(s) for the product listed

\*\* Preferred adhesive for very warm or hot climates



MA-MANUAL GUN-600ML



MA-BATT GUN-600ML

# **Access Lids and Accessories**

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Orenco® DuraFiber™ Access Lids and FL-Series Fiberglass Lids and Caps provide a secure, strong, and uniform covering for risers, pump basins, valve boxes, and tank hatches. All are available with gaskets to help provide watertight seals. In addition to providing access lids, Orenco also offers lid accessories such as tools for drilling bolt holes, as well as lid-mounting hardware.

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## **Access Lids and Accessories**

### **DuraFiber™ Fiberglass Access Lids (FLD)**

Orenco® DuraFiber™ Access Lids provide a secure, damage-resistant covering for ribbed PVC and HDPE risers, pump basins, and access ports. They are not recommended for vehicular traffic. Made in the USA.

- Solid, resin-infused fiberglass construction
- Available for 24-inch or 30-inch nominal diameter access risers (600-mm and 750-mm DN)
- 20,000-lb breaking strength (9,000 kg)
- Standard green or brown colors
- Available with or without urethane lid gasket
- Available with carbon filtration
- 4 stainless steel flathead socket cap screws and hex key wrench included

#### **Sample Product Codes\***

- FLD24G — fiberglass lid for 24-inch nominal diameter access risers (600-mm DN), with gasket
- FLD30G — fiberglass lid for 30-inch nominal diameter access risers (750-mm DN), with gasket



*Orenco DuraFiber™ Fiberglass Access Lids*

### **Custom Fiberglass Logo Lids (FLD)**

Orenco offers imprinting of custom logos, with customer-supplied images, on quantity orders of 24-inch and 30-inch diameter (600-mm and 750-mm) DuraFiber™ lids.

- Solid, resin-infused fiberglass construction
- 20,000-lb breaking strength (9,000 kg)
- Available with or without lid gasket

*\* For the full range of standard options for DuraFiber™ Lids, see the "Product Ordering Information" section in this catalog.*



## Access Lids and Accessories

### FLF-Series Fiberglass Access Lids (FLF)

Orenco® FLF-Series Fiberglass Access Lids provide a secure, strong, and uniform covering for risers, pump basins, and access ports. Gasketed models help provide a watertight seal between the lid and the access riser. Orenco FLF-Series Access Lids are not rated for vehicular traffic. Made in the USA.

- Fiberglass construction over structural foam core material
- 18-inch (450-mm DN) FLF lids fits UltraRib™, Perma-Loc™
- 21-inch (525-mm DN) FLF lids fits UltraRib
- 30-inch (750-mm DN) FLF lids fits Perma-Loc, Kor-Flo™
- Rated for 2500-lb (1134-kg) wheel load
- Standard green or brown colors
- Available with or without lid gasket
- Available with carbon filtration
- 2 or 4 stainless steel flathead socket cap screws and hex key wrench included



Orenco FLF-Series Fiberglass Access Lids

#### Sample Product Code\*

- FL30G — fiberglass lid for 30-inch nominal diameter access risers (750-mm DN), with gasket

### Fiberglass Access Caps (FL)

Orenco® Fiberglass Access Caps are used as strong, uniform access covers for valve boxes and tank hatches. Gasketed models provide a watertight seal between the lid and the access riser. Orenco Fiberglass Access Caps are rated for pedestrian traffic only. Made in the USA.

- Fiberglass construction
- Available for 8-inch, 12-inch, and 15-inch nominal diameter risers (200-mm, 300-mm, and 375-mm DN)
- Available with or without lid gasket
- Available with smooth or non-skid surface
- Available in green or white colors

#### Sample Product Codes\*

- FL8G — fiberglass cap for 8-inch nominal diameter (200-mm DN) risers, with gasket, slip fit
- FL12G — fiberglass cap for 12-inch nominal diameter (300-mm DN) risers, with gasket, slip fit
- FL12GT — fiberglass cap for 12-inch nominal diameter (300-mm DN) risers, with gasket, 2 bolts included
- FL12GTU — fiberglass cap for 12-inch nominal diameter (300-mm DN) Ultra-Rib™ access riser pipe, with gasket, 2 bolts included



Orenco Fiberglass Access Caps

\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.

## Access Lids and Accessories

### Lid Bolts, Screws, Wrenches, and Bits (RRL, RUL, RRT)

Orenco® Lid Bolts, Screws, and Lid Screw Kits do a great job of attaching fiberglass lids to PVC risers.

- Hex-drive screw and bolt heads fit flush to lid surface
- Pinned, hex-drive bolts require a special wrench for increased tamper resistance
- Hex-drive screws require a hex key or bit for removal

#### Product Codes

- RRLAB — lid bolt, 5/16 × 1¼-inch, thread-cutting; used with RLA24 adapters
- RULB — lid screw, 5/16 × 2-inch, hex-drive flat head; used with all adapters except RLA24
- RRLW — 3/16-inch hex-drive wrench for 5/16-inch diameter bolts and screws
- RRLW-BIT — 3/16-inch hex-drive bit for 5/16-inch diameter bolts and screws
- RRTL B — pinned lid bolt, 5/16 × 1¼-inch, non-thread cutting, tamper-proof; used with RLA24 adapters
- RRTLW — 5/16-inch hex-drive wrench; used with tamper-proof pinned bolts
- RRLAB+W-KIT — kit, 3/16-inch hex-drive wrench and four 5/16 × 1¼-inch, thread-cutting lid bolts; used with RLA24 adapters
- RRLB+W-KIT — kit, 3/16-inch hex-drive wrench and two 5/16 × 2-inch, hex-drive flat head screws; used with 12-inch and 30-inch (300-mm and 750-mm) lids
- RULB-KIT — kit, 3/16-inch hex-drive wrench and four 5/16 × 2-inch, hex-drive flat head screws; used with 18-inch and 24-inch (450-mm and 600-mm) lids

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.



*RRLB+W-KIT Lid Bolt Kit*



*RRTL B Pinned Lid Bolts and RRTLW Hex Drive Wrench*

# Basins

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Orengo® offers several types of basins for residential and commercial use. Filter Basins are used to house filters in residential and commercial wastewater systems. Fiberglass and PVC Basins house pumps and related equipment. Stormwater Catch Basins are specifically designed to catch and filter stormwater runoff.

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## **Basins**

### **External Filter Basins (FTB)**

Orenco® External Filter Basins are used to retrofit an existing residential septic system with an effluent filter. They eliminate the need for costly and sometimes hazardous modifications to an existing septic tank with restrictive access openings or to unusable outlet baffles or tees. External Filter Basins include a basin, an 8-inch (203-mm) Orenco Effluent Filter, and a grade ring for attaching a section of riser pipe to the basin.

- 18-inch nominal diameter (450-mm DN) basin
- Ribbed PVC body
- Fiberglass reinforced polyester base
- 12-inch (305-mm) tall, 8-inch (203-mm) diameter, Orenco Effluent Filter included
- Extendable filter handle for easy removal
- 4-inch nominal diameter (100-mm DN) inlet and outlet openings
- Grade ring for 18-inch nominal diameter (450-mm DN) riser pipe included
- Adapter kit with grommet and 4-inch Type 3034 pipe adapter ordered separately (Product Code FTB3034KIT)
- 18-inch (450-mm) grade ring ordered separately (See “Grade Rings and Grade Ring Inserts” in this catalog)
- 18-inch (450-mm) fiberglass access lid ordered separately (see “Fiberglass Access Lids” in this catalog)

#### **Product Codes**

- FTB1824-0812 — Filter basin, 18-inch nominal diameter (450-mm DN), 24-inch (610-mm) height, includes 12-inch (305-mm) tall, 8-inch (203-mm) diameter, Orenco effluent filter
- FTB3034KIT — Adapter kit with gasket for 4-inch (100-mm) Type 3034 pipe



*FTB1824-0812 External Filter Basin*

## **Basins**

### **Stormwater Catch Basins (SCB)**

Orenco® Stormwater Catch Basins provide a durable, cost-effective alternative to a concrete or steel catch basin. Their lightweight, durable PVC and fiberglass construction makes them quick to install, and their easy-to-remove filter screens make them simple to service and maintain.

- Easy-to-remove filter
- Screens materials to 1/8-inch (3 mm) diameter
- Nominal open area of filter is 50%
- 6-inch NPS (150-mm DN) inlet and outlet pipe couplings for SCB1236-6L model
- 4-inch NPS (100-mm DN) inlet and outlet couplings for all other models
- Includes durable fiberglass lid and mounting hardware on SCB1236-L and 1236-6L models

#### **Product Codes**

- SCB0824 — catch basin, 8-inch nominal diameter (200-mm DN), 24-inch (610-mm) height
- SCB0836 — catch basin, 8-inch nominal diameter (200-mm DN), 36-inch (914-mm) height
- SCB1236 — catch basin, 12-inch nominal diameter (300-mm DN), 36-inch (914-mm) height
- SCB1236-L — catch basin, 12-inch nominal diameter (300-mm DN), 36-inch (914-mm) height, 4-inch NPS (100-mm DN) level inlet and outlet
- SCB1236-6L — catch basin, 12-inch nominal diameter (300-mm DN), 36-inch (914-mm) height, 6-inch NPS (150-mm DN) level inlet and outlet



*SCB1236-6L Stormwater Catch Basin*

## **Basins**

### **Fiberglass Basins (PBF)**

Orenco® Fiberglass Basins have an extremely high strength-to-weight ratio. Fiberglass basins are constructed of filament-wound fiberglass with a structurally bonded fiberglass base for durability and watertightness. Options include splice boxes, float stem holders, guide rails, base elbows, and cleanout/vent assemblies.

- High strength-to-weight ratio
- Filament-wound
- Watertight
- Lightweight
- Durable
- Integral antifoatation base
- 24-inch, 30-inch and 36-inch nominal diameters available, standard (600-mm, 750-mm, and 900-mm DN)
- 48-inch, 60-inch, 72-inch and 84-inch basin heights, standard (1219-mm, 1524-mm, 1829-mm and 2134-mm)
- Custom heights to 15 feet (4.6 m) available
- Fiberglass lid ordered separately

#### **Sample Product Codes\***

- PBF2472 — fiberglass basin, 24-inch nominal diameter (600-mm DN), 72-inch basin height (1524-mm)
- PBF3072 — fiberglass basin, 30-inch nominal diameter (750-mm DN), 72-inch basin height (1524-mm)
- PBF3672 — fiberglass basin, 36-inch nominal diameter (900-mm DN), 72-inch basin height (1524-mm)

*\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.*



*Orenco Fiberglass Pump Basin*

## **Basins**

### **PVC Basins (PB)**

Orenco® PVC Basins are constructed of durable PVC pipe with a fiberglass base that is attached with epoxy for strength and watertightness. Options include splice boxes, float stem holders, and cleanout/vent assemblies.

- PVC construction
- Watertight
- Durable
- 24-inch and 30-inch nominal diameters available, standard (600-mm and 750-mm DN); other diameters available
- 54-inch, 60-inch, 66-inch, and 72-inch basin heights, standard (1373-mm, 1524-mm, 1676-mm, and 1829-mm); other heights available in 3-inch (76-mm) increments
- Custom heights to 13 feet for 30-inch basins (3.9 m for 750-mm) and 14 feet for 24-inch basins (4.2 m for 600-mm)
- Fiberglass lid ordered separately

#### **Sample Product Code\***

- PB3072-BLANK — PVC basin, 30-inch nominal diameter (750-mm DN), 72-inch basin height (1829-mm), no holes, no float bracket

\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.



*Orenco PVC Pump Basin*

# Effluent Filters

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Orenco® Effluent Filters prevent the discharge of large solids from a tank, improving effluent quality and extending drainfield life. Effluent flows from the “clear zone” inside of the septic tank into the Biotube® filter through the filter’s vertical holes. Large suspended solids in the effluent are retained in the filter’s interior space, where organic material can be further broken down. Orenco® Biotube® Effluent Filters have 5-10 times more flow area than competing effluent filters, so they don’t need to be cleaned as often, reducing maintenance time and cost. Orenco offers a number of effluent filters for a wide range of residential and commercial wastewater applications.

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## Effluent Filters

### Biotube® Effluent Filter Inserts (FTI)

Orenco's Biotube® Filter Inserts remove about two-thirds of suspended solids from effluent, helping extend drainfield life. They are ideal for fast, economical retrofit applications in residential septic tanks. They install in minutes inside of an existing septic tank's Schedule 40 or Type 3034 outlet tee.

- 4-inch (100-mm) nominal filter diameter
- 18-inch (457-mm) filter height
- 1/8-inch (3-mm) filter mesh
- Installs in minutes inside existing tanks
- Corrosion-proof construction
- Easy to clean

#### Sample Product Codes\*

- FTI0418-W — Biotube Effluent Filter insert, 4-inch (100-mm) diameter, 18-inch (457-mm) filter height, for Type 3034 outlet tee
- FTI0418-S — Biotube Effluent Filter insert, 4-inch (100-mm) diameter, 18-inch (457-mm) filter height, for Schedule 40 outlet tee

\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.

### Biotube® Junior Effluent Filters (FTJ)

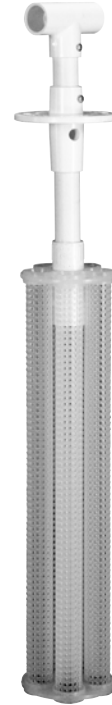
Orenco® Biotube® Junior Effluent Filters remove about two-thirds of suspended solids from effluent, helping extend drainfield life. They are designed for small flows or for septic tanks that are not tall enough to fit a full size Biotube® effluent filter. Biotube® Junior Effluent Filters install on the Schedule 40 or Type 3034 outlet pipe in a septic tank. They come with a filter cartridge, PVC housing, and an extendable PVC handle.

- 4-inch (100-mm) nominal filter diameter
- 18-inch (457-mm) filter height
- 1/8-inch (3-mm) or 1/16-inch (1.5-mm) filter mesh available
- Corrosion-proof construction
- Extendable handle
- Easy to clean

#### Sample Product Codes\*

- FTJS0418A — Biotube® Junior effluent filter, 4-inch (100-mm) diameter, 18-inch (457-mm) filter height, with float bracket, for Schedule 40 outlet tee
- FTJW0418 — Biotube® Junior effluent filter, 4-inch (100-mm) diameter, 18-inch (457-mm) filter height, with float bracket, for Type 3034 outlet tee
- FTJ-CA0418 — Biotube® Junior replacement filter cartridge, 4-inch (100-mm) diameter, 18-inch (457-mm) filter height 1/8-inch (3-mm) mesh

\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.



Biotube® Effluent Filter Insert



Biotube® Junior Effluent Filter

## **Effluent Filters**

### **Biotube® FT Series Residential Effluent Filters (FT)**

Orenco® Biotube® FT Series Residential Effluent Filters remove about two-thirds of suspended solids from effluent, helping extend drainfield life. They are used in new or existing tanks, for residential and light commercial use. Biotube® FT Series Residential Effluent Filters install on the Schedule 40 or Type 3034 outlet pipe in the septic tank. They come with a filter cartridge, PVC housing, and an extendable PVC handle.

- 4-inch (100-mm) nominal filter diameter
- 1/8-inch (3-mm) or 1/16-inch (1.5-mm) filter mesh available
- Corrosion-proof construction
- Extendable handle
- Easy to clean
- Optional flow modulation plate available
- Optional float bracket available for high-level alarm assembly
- High-level alarm assembly ordered separately (see “Float Switch Assemblies” in the “Product Ordering Information” section of this catalog)

#### **Sample Product Codes\***

- FTS0444-36M — Biotube® FT filter, 4-inch (100-mm) diameter, 44-inch (1118-mm) housing height, 36-inch (914-mm) cartridge height, with flow modulation plate
- FTS0444-36V — Biotube® FT filter, 4-inch (100-mm) diameter, 44-inch (1118-mm) housing height, 36-inch (914-mm) cartridge height, with vented plate
- FTS0444-36 — Biotube® FT filter, 4-inch (100-mm) diameter, 44-inch (1118-mm) housing height, 36-inch (914-mm) cartridge height
- FT-CA0444-36-1 — Biotube® FT replacement filter cartridge, 4-inch (100-mm) diameter, 44-inch (1118-mm) housing height, 36-inch (914-mm) cartridge height
- FT-CA0436-28 — Biotube® FT replacement filter cartridge, 4-inch (100-mm) diameter, 36-inch (914-mm) housing height, 28-inch (711-mm) cartridge height

\*For the full range of standard options, see the “Product Ordering Information” section in this catalog.



*Biotube® FT Series Residential Effluent Filters*

## **Effluent Filters**

### **Biotube® FT Series Base Inlet Effluent Filters (FT)**

Orenco® Biotube® FT Series Base Inlet Effluent Filters remove about two-thirds of suspended solids from effluent, helping extend drainfield life. They have the flow area of a full-size filter in a small package for short septic tanks. Biotube® FT Series Base Inlet Effluent Filters are installed on the Schedule 40 or Type 3034 outlet pipe of a new or existing tank. They come with a filter cartridge, PVC housing, and an extendable PVC handle. An optional overflow plate is available for 8-inch (200-mm) models, to prevent effluent from bypassing the filter if it clogs.

- 8-inch (200-mm) nominal filter diameter
- 14-inch (356-mm) filter height, standard
- 22-inch (559-mm) housing height, standard
- 1/8-inch (3-mm) or 1/16-inch (1.5-mm) filter mesh available
- Corrosion-proof construction
- Extendable handle
- Easy to clean
- Optional overflow plate available
- Optional float elbow available for high-level alarm assembly
- High-level alarm assembly ordered separately (see “Float Switch Assemblies” in the “Product Ordering Information” section of this catalog)

#### **Sample Product Codes\***

- FT0822-14B — Biotube® FT filter, 8-inch (200-mm) diameter, 14-inch (356-mm) filter height, base inlet
- FT0822-14B-FS0 — Biotube® FT filter, 8-inch (200-mm) diameter, 14-inch (356-mm) filter height, base inlet, overflow plate installed

*\* For the full range of standard options, see the “Product Ordering Information” section in this catalog.*



*Biotube® FT Series Base Inlet Effluent Filters*

## **Effluent Filters**

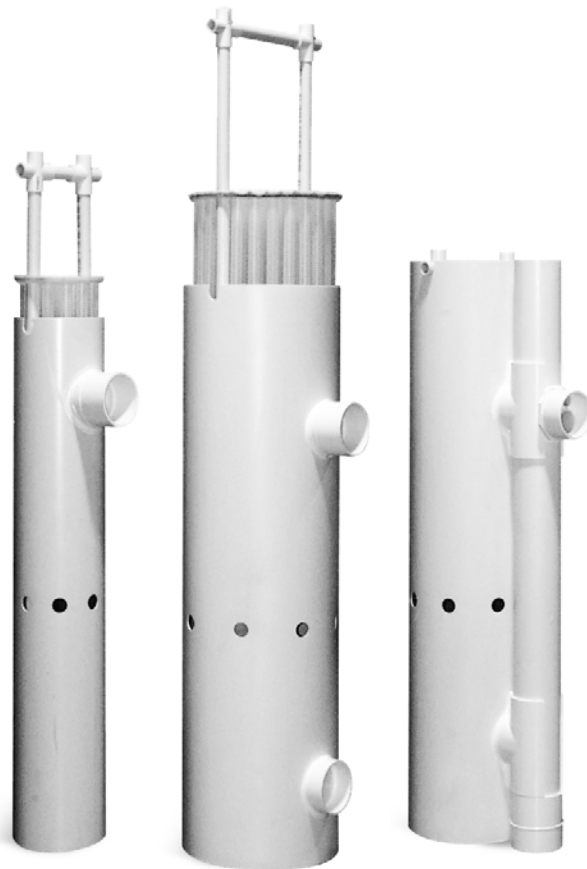
### **Biotube® FT Series Commercial Effluent Filters (FT)**

Orenco® Biotube® FT Series Commercial Effluent Filters remove about two-thirds of suspended solids from effluent, helping extend drainfield life. They are used in new or existing tanks, for commercial or heavy residential use. Biotube® FT Series Commercial Effluent Filters come with a filter cartridge, PVC housing, and an extendable PVC handle. A slide rail is available as an option for large filters, to make it easier to install and service them, and it is required on filters for tanks that have only one access location.

- 8-inch, 12-inch, or 15-inch (200-mm, 300-mm, 375-mm ) nominal filter diameters available
- 1/8-inch (3-mm) or 1/16-inch (1.5-mm) filter mesh available
- Corrosion-proof construction
- Extendable handle
- Easy to clean
- Optional slide rail for easy installation and tank access for servicing (required for use in tanks with only one access)
- Optional float bracket available for high-level alarm assembly
- High-level alarm assembly ordered separately (see “Float Switch Assemblies” in the “Product Ordering Information” section of this catalog)

#### **Sample Product Codes\***

- FT0854-36 — Biotube® FT filter, 8-inch (200-mm) diameter, 54-inch (1372-mm) housing height, 36-inch (914-mm) cartridge height
- FT1254-36 — Biotube® FT filter, 12-inch (300-mm) diameter, 54-inch (1372-mm) housing height, 36-inch (914-mm) cartridge height
- FT1254-36AR — Biotube® FT filter, 12-inch (300-mm) diameter, 54-inch (1372-mm) housing height, 36-inch (914-mm) cartridge height, float bracket and slide rail



*Biotube® FT Series Commercial Effluent Filters*

\* For the full range of standard options, see the “Product Ordering Information” section in this catalog.

# Ultraviolet Disinfection Units

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Orenco® Ultraviolet (UV) Disinfection units provide ultraviolet disinfection after advanced secondary wastewater treatment. In side-by-side NSF® testing, Orenco's UV Disinfection Unit reduced bacteria by 99.999% (5 logs), meeting or exceeding the performance of other residential UV disinfection units.

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## **UV Disinfection Units**

### **UV Disinfection Units**

Orenco® UV Disinfection Units are designed for residential applications after advanced secondary treatment (10 mg/L or less for CBOD<sub>5</sub> and TSS) when disinfection is required before dispersal. They require installation inside a pump basin, gravity discharge basin, or a separate tank following an advanced secondary treatment system. The power ballast, current sensor, and controls are housed externally, to protect electronic components from environmental damage.

- UL-recognized for US and Canada
- 125  $\mu\text{W}/\text{cm}^2$  lamp output
- Maximum contact time between lamp and effluent
- Reduction of bacteria by 5 logs (99.999%)
- Quick-disconnect fitting for easy inspection and unit cleaning
- Teflon sleeve to protect lamp and minimize buildup and service intervals
- Power ballast and lamp current sensor housed in control panel (not in wet well) to minimize failure due to environmental exposure
- Integrated components and controls — no piecemeal assemblies and wiring
- 25- or 50-ft (7.6- or 15.2-m) power cord length

### **Product Codes**

- UV-125/31-UVIB — UV disinfection unit, 125  $\mu\text{W}/\text{cm}^2$  output, 31-in. (787-mm) lamp length, control panel with audible/visible alarms, 25-ft (7.6-m) power cord
- UV-125/31-UVIB-50 — UV disinfection unit, 125  $\mu\text{W}/\text{cm}^2$  output, 31-in. (787-mm) lamp length, control panel with audible/visible alarms, 50-ft (15.2-m) power cord
- UV-125/31-UVIBSUB — UV disinfection unit, 125  $\mu\text{W}/\text{cm}^2$  output, 31-in. (787-mm) lamp length, sub-panel for use with separate control panel, 25-ft (7.6-m) power cord
- UV-125/31-UVIBSUB-50 — UV disinfection unit, 125  $\mu\text{W}/\text{cm}^2$  output, 31-in. (787-mm) lamp length, sub-panel for use with separate control panel, 50-ft (15.2-m) power cord



*Orenco UV-125/31-UVIB Ultraviolet Disinfection Unit*

# Float Switches and Assemblies

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Orenco float switches are used to signal liquid level positions for alarm and pump control applications. Float switch housings are impact-resistant, noncorrosive PVC plastic for use in liquids up to 140° F (60° C). Float switch cords are flexible, two-conductor SJOW with a water-resistant neoprene coating. Float switch assemblies can be mounted in pump vaults, effluent screens, pump basins, and risers. All models are UL listed and CSA certified for use in water or sewage. For information on ordering float switch assemblies that are designed to work with specific models of Orenco Controls' standard control panels, contact your Distributor or Orenco.

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## **Float Switches, Assemblies, and Accessories**

### **Float Switch Chart**

Model	Rating	Type	Normal State	Intrinsically safe	hp (kW)	AC Voltage	Amps	Tether Length in. (mm)	Drawdown in. (mm)
P	Signal	Mechanical	Open	●				2.00 (50.9)	2.00 (76.2)
N	Signal	Mechanical	Closed	●				2.00 (50.9)	2.00 (76.2)
B	Motor	Mechanical	Open		½ (0.37) 1 (0.75)	120 240	13 13	2.00-4.00 (50.9-101.6)	4.00-4.75 (101.6-120.7)
C	Motor	Mechanical	Open		½ (0.37) 2 (1.49)	120 240	13 15	2.00-6.00 (50.9-152.4)	5.50-9.50 (139.7-241.3)
G	Motor	Mercury	Open	●	¾ (0.56) 2 (1.49)	120 240	15 15	2.00-4.00 (50.9-101.6)	4.50-5.50 (114.3-139.7)



## **Float Switches, Assemblies, and Accessories**

### **Signal-Rated, Mechanical (Non-Mercury) Float Switches, “P”, “N” Models**

Orenco® Signal-Rated Non-Mercury Float Switches are used with pump control panels and alarms in areas where components containing mercury are prohibited. They're intended for low-amperage signals and aren't capable of carrying the current necessary to start or operate a pump. They have a “drawdown” value — the difference in liquid level between the switch's activation and deactivation points.

#### **“P” Model**

- Normally-open default state (contact is open when float switch is hanging)
- Approved for intrinsically safe relays (very low amperage)
- Suitable for Orenco MVP and VCOM panels
- 2-inch (76-mm) drawdown
- Super Vu-Tron® cords: flexible 2-conductor (UL, CSA) SJ00W

#### **“N” Model**

- Normally closed default state (contact is open when float switch is floating)
- Approved for intrinsically safe relays (very low amperage)
- Suitable for electromechanical panels with “RO” option
- 2-inch (76-mm) drawdown
- Super Vu-Tron® cords: flexible 2-conductor (UL, CSA) SJ00W



*“P” Model Float Switch*

## **Float Switches, Assemblies, and Accessories**

### **Motor-Rated, Mechanical (Non-Mercury) Float Switches, “B,” “C” Models**

Orenco® Motor-Rated Non-Mercury Mechanical Float Switches are used with pump control panels and alarms in areas where components containing mercury are prohibited. They are intended to carry starting and operating current for a pump. They have a “drawdown” value — the difference in liquid level between a float switch’s activation and deactivation points. The default state is normally-open (contact is open when float switch is hanging).



*“B” Model Float Switch*

#### **“B” Model**

- Normally-open default state (contact is open when float switch is hanging)
- Ideal for areas where components containing mercury are prohibited
- ½-hp (0.37 kW), 120-VAC switch power or 1-hp (0.75 kW), 240-VAC switch power
- 13 Amps (120-VAC and 240-VAC switches)
- 4.00-inch to 4.75-inch drawdown (100-mm to 120-mm)

#### **“C” Model**

- Normally-open default state (contact is open when float switch is hanging)
- Ideal for areas where components containing mercury are prohibited
- ½-hp (0.37 kW), 120-VAC switch power or 2-hp (1.49 kW), 240-VAC switch power
- 13 Amps (120-VAC switch)
- 15 Amps (240-VAC switches)
- 5.50-inch to 9.50-inch drawdown (140-mm to 241-mm)

## **Float Switches, Assemblies, and Accessories**

### **Motor-Rated Mercury Float Switches, “G” Models**

Orenco® Motor-Rated Mercury “G” model float switches are used with pump control panels and alarms, as well as to carry starting and operating current for a pump. They have a “drawdown” value — the difference in liquid level between a float switch’s activation and deactivation points.

- Normally-open default state (contact is open when float switch is hanging)
- Approved for intrinsically safe relays (very low amperage)
- ¾-hp (0.56 kW), 120-VAC switch power or 2-hp (1.49 kW), 240-VAC switch power
- 15 Amps (120-VAC and 240-VAC switches)
- 4.50-inch to 5.50-inch drawdown (120-mm to 140-mm)

**Some jurisdictions restrict the use of products containing mercury. Check local or state regulations for potential restrictions in your area.**



*“G” Model Float Switch*

## Float Switches, Assemblies, and Accessories

### Float Switch Assemblies (MF)

Orenco® Float Switch Assemblies are preassembled with one or more floats secured by float collars mounted on a 1-inch (25-mm) PVC float stem.

- Preassembled
- Easy to adjust in the field with no special tools
- Quick-release clips

#### Sample Product Codes\*

- MFPBN-27V — float switch assembly; one “P” float, one “B” float, and one “N” float; 27-in (686-mm) stem length, for Biotube® pump vault
- MF3P-33V — float switch assembly; three “P” floats, 33-inch (838-mm) stem length, for Biotube pump vault

\* For the full range of standard options, see the “Product Ordering Information” section in this catalog.

### Float Switch Collars (MFCOLLAR)

Orenco® Float Switch Collars are the simplest, most reliable way to attach a float switch to a Schedule 40 PVC float switch stem.

- Secure, non-slip attachment for float switches
- Models for 1-inch to 3-inch (25-mm to 75-mm) Schedule 40 PVC float switch stems
- Durable ABS construction
- No special tools required for mounting or adjusting
- Quick-release clip
- Works with 18/2 and 16/2 AWG cords (MFCOLLAR1) or 16/3 AWG cords (MFCOLLAR1L)

#### Product Codes

- MFCOLLAR1 — fits 1-inch (25-mm) pipe, 18/2 and 16/2 AWG cords for type A, B, C, N, and P float switches
- MFCOLLAR1L — fits 1-inch (25-mm) pipe, 16/3 AWG cords, for type D and G float switches
- MFCOLLAR1.25 — adjustable collar for 1-inch to 3-inch (25- to 75-mm) pipe, 18/2 and 16/2 AWG cords for type A, B, C, N, and P float switches
- MFCOLLAR2 — fits 1-inch (25-mm) pipe, short throw to accommodate bottom float for PV-style pump vaults



*Float Switch Assembly  
Including Three Floats and Float Collars*



*MFCOLLAR1 Float Collar*

## **Float Switches, Assemblies, and Accessories**

### **Float Brackets (PBFB, RRFB)**

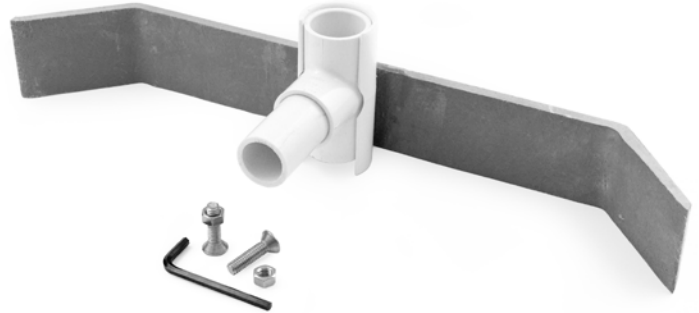
Orenco® Float Brackets are installed on the inside of a PVC access riser for mounting a float stem and float switches. Two models are available.

- PBFB model adhesive-mounts close to riser wall
- RRFB model bolts into riser wall for offset mount so stem aligns to tank opening
- Accepts 1-inch NPS (25-mm DN) float switch stem
- Ideal for system upgrades and repairs

#### **Product Codes**

- PBFB — adhesive-mount float bracket; includes set screw, adhesive ordered separately
- RRFB — bolt-on float bracket; includes mounting hardware and wrench

*\* For the full range of available product options, contact your local Orenco Distributor or Orenco.*



*RRFB Float Bracket*

# Splice Boxes and Accessories

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Orenco® Splice Boxes are used to house spliced wire connections between an electrical control panel and equipment, such as effluent pumps and float switches. Internal and external splice boxes are available. Accessories such as cord grips and waterproof wire nuts provide watertight clamping of float switch cords and positive electrical connections in splices.

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## Splice Boxes and Accessories

### Internal Splice Boxes (SB)

Orenco® Internal Splice Boxes are installed inside of access risers to house spliced wire connections between an electrical control panel and equipment, such as effluent pumps and float switches. Orenco Internal splice boxes come standard with one to six watertight cord grips. Included are waterproof wire nuts, a neoprene sealing gasket, and four stainless steel lid screws.

- Conforms to UL 514C, CSA C22.2 No. 85 1968
- Type 4X (IP66) rated
- Neoprene sealing gasket included
- Stainless steel lid screws included
- Waterproof wire nuts included
- One to six ½-inch (15-mm) cord grips, standard
- Cord grips available for ¾-inch (19-mm) AWG cord and CE-rated 1.5 × 3 flat cable
- 15/8-inch (41-mm) standard conduit coupling length for PVC risers
- 3¼-inch (82-mm) conduit coupling length for concrete risers

#### Sample Product Codes\*

- SB3 — includes three ½-inch (15-mm) cord grips, 15/8-inch (41-mm) standard conduit coupling
- SB3G — includes two ½-inch (15-mm) cord grips, one ¾-inch (19-mm) cord grip, 15/8-inch (41-mm) standard conduit coupling
- SB4 — includes four ½-inch (15-mm) cord grips, 15/8-inch (41-mm) standard conduit coupling

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.



*Orenco Internal Splice Box  
(Shown with Cord Grips, Electrical Cords, and Waterproof Wire Nuts)*

## **Splice Boxes and Accessories**

### **External Splice Boxes (SBEX)**

Orenco® External Splice Boxes are installed outside of access risers to house spliced wire connections between an electrical control panel and equipment, such as effluent pumps and float switches. Its separate conduit hubs, large volume, and optional dividers make it useful for maintaining isolation of high and low voltage wires where needed. Each External Splice Box is provided with a hole-cutting template to simplify installation on the riser and a 4-inch (100-mm) diameter grommet for the riser penetration.

- Type 6X rated for prolonged submergence
- Constructed of UL-rated PVC alloy
- Buna rubber sealing ring
- Four Type 6X-rated, ½-inch (15-mm) cord grips included, standard
- Three EPDM rubber cord grip plugs included, standard
- 100 in.3 (1639 cm3) volume for easy wiring access
- Bottom entry to maintain minimum burial depth
- Easy inspection without removing riser lid

#### **Sample Product Code\***

- SBEX-1-4 — Splice box

*\* For the full range of available product options, contact your local Orenco Distributor or Orenco.*



*Orenco External Splice Box*



## Splice Boxes and Accessories

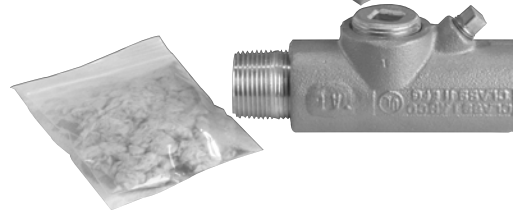
### Conduit Seal Kits (SBCS)

Orenco® Conduit Seal Kits create a watertight, gastight seal between a conduit and a splice box that prevents the passage of liquids, vapors, and flames. They include a seal fitting, fiber batting, and pipe cement.

- UL-listed
- ¾-inch (19-mm) and 1-inch (25-mm) conduit sizes
- Aluminum seal fitting

#### Product Codes

- SBCS075 — Conduit seal kit, for ¾-inch (20-mm) diameter conduit
- SBCS100 — Conduit seal kit, for 1-inch (25-mm) diameter conduit



*SBCS 100 Conduit Seal Kit*

### Cord Grips (SBCG)

Orenco® Cord grips provide watertight strain relief for float cables, pump cables, and other wiring running into Orenco internal or external splice boxes. Cord grips to accommodate single and three-phase CE-rated 1.5 × 3 flat cords are also available.

- Type 4X (IP66) or Type 6X ratings available
- ½-inch (15-mm) NPT threads on standard cord grips
- ¾-inch (19-mm) NPT threads on large cord grips
- 212° F (100° C) maximum temperature rating

#### Product Codes

- SBCG — for 0.17 to 0.47 inch (4.3 to 12 mm) cord diameters, Type 4X (IP66) rated, ½-inch (15-mm) NPT threads
- SBCGL — for 0.45 to 0.70 inch (11 to 18 mm) cord diameters, Type 4X (IP66) rated, ¾-inch (19-mm) NPT threads
- SBCG6 — for 0.17 to 0.47 inch (4.3 to 12 mm) cord diameters, Type 6X rated, ½-inch (15-mm) NPT threads
- SBCG6L — for 0.45 to 0.70 inch (11 to 18 mm) cord diameters, Type 6X rated, ¾-inch (19-mm) NPT threads



*Orenco Cord Grips*

## **Splice Boxes and Accessories**

### **Waterproof Wire Nuts (SBAB)**

Orenco® Waterproof Wire Nuts provide waterproof connections between wires in splice boxes. Two sizes are available, small and large. They are not reusable.

- 600-V
- Rated for outdoor connections

#### **Product Codes**

- SBABRKING — small, Type 4X (IP66) rated, ½-inch (15-mm) NPT threads
- SBABOKING — large, Type 4X (IP66) rated, ¾-inch (19-mm) NPT threads

For capacities of Orenco's waterproof wire nuts, see the table below



*Orenco Waterproof Wire Nuts*

### **Wire Nut Capacities**

Connectors are rated for outdoor connections with the following wire combinations:

<b>Large Connector, 600 V</b>	<b>Small Connector, 600 V</b>
One 10 AWG and one 12 AWG	Two 14 AWG
One 10 AWG and one 14 AWG	One 14 AWG and one 16 AWG
Two-to-four 12 AWG	One 14 AWG and one or two 18 AWG
One 12 AWG and one-to-four 14 AWG	Two 16 AWG and one or two 18 AWG
One 12 AWG and two-to-four 16 AWG	Two 16 AWG
One 12 AWG and three 18 AWG	One 16 AWG and one 18 AWG
Two-to-four 14 AWG	Two to four 18 AWG
Two-to-six 16 AWG	

# Alarm Panels

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Alarm panels manufactured by Orenco® provide “stand alone” visible and audible alarm notifications of undesirable liquid levels inside of tanks. They are typically used to indicate a high liquid-level condition in a system that does not use a discharge pump. Inputs are typically provided by a single float switch. Alarm panels are also used as remote alarms in water, wastewater, and other systems.

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## **Alarm Panels**

### **A Series Simplex Alarm Panels**

A Series simplex panels from Orenco Controls® are used to control pump motors and alarm functions in simplex pumping systems. They are intended as a low-cost option for pump controls into gravity or pressurized drainfields or for Effluent Sewers (aka STEP sewers or Septic Tank Effluent Pumping Systems), especially where cost is the critical factor.

- Low-cost
- 120-VAC controls circuit breaker
- 120- or 120/240-VAC pump circuit breaker
- 7/8-in (22-mm) red visible alarm
- 95 dB audible alarm
- Automatic alarm silence reset
- Type 4X (IP 66) rated enclosure
- Motor-rated pump on/off float switch ordered separately
- Limited optional features available

#### **Sample Product Codes\***

- A1
- A1R0

\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.



*A1R0 Simplex Alarm Panel*

## Alarm Panels

### AMAHW Liquid Level Alarm Panel

The AMAHW liquid level alarm panel from Orenco Controls® is a 120-VAC, stand-alone alarm panel with an automatic alarm reset function. It has a watertight enclosure rated for indoor or outdoor use. The AMAHW can be used as a remote alarm panel when supplied with a 120-VAC signal from a primary control panel.

- 120-VAC
- 7/8-in (22-mm) red visible alarm
- 95 dB audible alarm
- Automatic alarm reset
- Type 4X (IP 66) rated enclosure
- Indoor or outdoor use
- Signal-rated float switch ordered separately

#### Product Code

- AMAHW — 120 VAC liquid level alarm panel, indoor/outdoor use, automatic alarm reset



AMAHW Liquid Level Alarm Panel

### AMLAHW Liquid Level Alarm Panel

The AMLAHW liquid level alarm panel from Orenco Controls® is a 120-VAC, stand-alone alarm panel with a two-position toggle switch for silencing the audible alarm during alarm conditions. It has a watertight enclosure rated for indoor or outdoor use. The AMLAHW can be used as a remote alarm panel when supplied with a 120-VAC signal from a primary control panel.

- 120-VAC
- 7/8-in (22-mm) red alarm light
- 95 dB audible alarm
- "Auto/Silence" 2-position booted toggle switch
- Type 4X (IP 66) rated enclosure
- Indoor or outdoor use
- Signal-rated float switch ordered separately

#### Product Code

- AMLAHW — 120 VAC liquid level alarm panel, indoor/outdoor use, two-position manual alarm silence switch



AMLAHW Liquid Level Alarm Panel

## **Alarm Panels**

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### **AMSGBA Single-Gang Alarm Box**

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The AMSGBA single-gang alarm box from Orenco Controls® is an in-wall remote alarm, designed to fit into a single-gang outlet box inside of a building.

- 120 VAC only
- 7/8-in (22-mm) red alarm light
- 82 dB audible alarm
- Manual alarm reset
- Indoor use only
- Signal-rated float switch ordered separately

#### **Product Code**

- AMSGBA — 120 VAC single-gang alarm box



*AMSGBA Single-Gang Alarm Box*

## Alarm Panels

### 9 VDC Liquid Level Alarm Panels

The Sentinel series of 9 VDC alarm panels from Orenco Controls® are designed to provide liquid level alarm functions in remote locations without 120 VAC power or in indoor/outdoor applications where only 120 VAC outlet power is available.

- 9 VDC with battery included (AMSENTII and AMSENTII-W)
- AC adapter (AMSENTI only)
- Red LED alarm light
- 85 db audible alarm (AMSENTI and AMSENTII)
- 80 db audible alarm (AMSENTII-W)
- "Test/Silence/Auto" toggle switch
- Indoor use only (AMSENTI and AMSENTII)
- Type 4X (IP 66) rated enclosure for indoor or outdoor use (AMSENTII-W only)
- Signal-rated float switch ordered separately

#### Product Codes

- AMSENTI — 9 VDC liquid level alarm, AC adapter included, audible/visible alarm, indoor use only
- AMSENTII — 9 VDC liquid level alarm, battery included, audible/visible alarm, indoor use only
- AMSENTII-W — 9 VDC liquid level alarm, battery included, audible/visible alarm, Type 4X enclosure, indoor/outdoor use



*AMSENTI Sentinel Liquid Level Alarm*

# Hydrosplitters and Accessories

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Orenco® Hydrosplitters are used to dose filtered or screened effluent by pressure or gravity to multiple distribution zones. Each one is custom-built to the specific needs of a particular drainfield or system.

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## Hydrosplitters and Accessories

### Hydrosplitters (HS)

Orenco® Hydrosplitters are used to provide equal doses of screened effluent to multiple laterals or zones in gravity drainfields, regardless of the length of the laterals used in the drainfield. Typically, a dose pump is used to transport effluent to the hydrosplitter, which then doses all of the drainfield laterals by gravity.

- Works with pump or siphon discharge to hydrosplitter
- Schedule 40 PVC construction
- ½-inch to 4-inch NPS (15-mm to 100-mm DN) sizes available for fittings, unions, and flow controllers
- ½-inch to 2-inch NPS (15-mm to 50-mm DN) sizes available for flexible outlet hose
- Flow Control Discs sold separately
- Flow Control Disc orifices sized in 1/64-inch (0.396-mm) increments

Each Hydrosplitter is built to the specific needs of a particular drainfield. For information on ordering a Hydrosplitter for your project, call Orenco.



Orenco Hydrosplitter

### Hydrosplitter Enclosures (HSRR)

Orenco® Hydrosplitter Enclosures are used to provide a secure, protective housing for hydrosplitters.

- PVC construction
- Standard 24-inch and 30-inch nominal diameter (600-mm or 750-mm DN) enclosures available
- Standard 12-inch, 18-inch, and 24-inch (305-mm, 457-mm, and 610-mm) enclosure heights available
- Allows easy transport and discharge line installation
- Secures and protects hydrosplitter manifold
- Easy access for O&M

#### Sample Product Codes\*

- HSRR24XX — XX = 12-inch, 18-inch, or 24-inch enclosure height (305-mm, 457-mm, and 610-mm)
- HSRR30XX — XX = 12-inch, 18-inch, or 24-inch enclosure height (305-mm, 457-mm, and 610-mm)

\* For the full range of standard options, see the "Product Ordering Information" section in this catalog.



Orenco Hydrosplitter Enclosure

## **Hydrosplitters and Accessories**

### **Flow Control Discs and Assemblies (FC)**

Orenco® Flow Control Discs and Flow Control Assemblies are used in pressurized distribution systems to equalize flow in laterals of varying elevations and lengths. The size of the orifice in the flow control assembly is based on multiple factors.

- ½-inch, 1-inch, 1¼-inch, 1½-inch, and 2-inch NPS diameters available for Flow Control Discs (15-mm, 25-mm, 32-mm, 40-mm, and 50-mm DN)
- 1-inch, 1¼-inch, 1½-inch, and 2-inch NPS diameters available for Flow Control Assemblies (25-mm, 32-mm, 40-mm, and 50-mm DN)
- Flow Control Disc orifices sized in 1/64-inch (0.396-mm) increments
- Blank Flow Control Discs are available

Call Orenco or your Distributor for assistance with orifice sizing.



*Orenco Flow Control Disc and Assembly*

# **Carbon Filters and Accessories**

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Orenco® offers several sizes of carbon filters for residential and commercial wastewater systems. They are designed to reduce the odor of sewage gases in systems that ventilate using passive airflow.

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## Carbon Filters and Accessories

### CF Carbon Filters

Orenco® CF Carbon Filters are passive ventilation filters used to reduce the odor of sewage gases in systems that ventilate using passive airflow. They are easy to attach to a vent pipe. CF carbon filters use activated impregnated carbon in replaceable packages. The cap is removable to allow replacement of the carbon package.

- 3-inch, 4-inch, and 6-inch NPS diameters (80-mm, 100-mm and 150-mm DN)
- Slip-fit
- UV-resistant
- ABS and PVC construction (CF3 and CF4)
- Fiberglass and PVC construction (CF6)
- Polyethylene screen plate
- Replaceable carbon packages

#### Sample Product Codes\*

- CF3 — carbon filter for 3-inch NPS (80-mm DN) PVC pipe
- CF4 — carbon filter for 4-inch NPS (100-mm DN) PVC pipe
- CF6 — carbon filter for 6-inch NPS (1500-mm DN) PVC pipe

### CFR Carbon Filter Recharge Packages

Orenco® CFR Carbon Filter Recharge Packages provide a clean, simple way to replace the carbon material in an Orenco CF Carbon Filter or Orenco Fiberglass Access Lid equipped with carbon filtration.

- Activated, impregnated carbon material
- Pre-sized for Orenco Carbon Filters

#### Product Codes

- CFR3 — recharge package for CF3 filters
- CFR4 — recharge package for CF4 filters
- CFR12 — recharge package for fiberglass access lids equipped with carbon filtration (requires one package) or for CF6 filters (requires two packages)

### CFB Carbon Filter Bushings

Orenco® CFR Carbon Filter Bushings are used to adapt an Orenco CF3 or CF4 Carbon Filter to an existing vent outlet of a smaller diameter.

#### Product Codes

- CFB32 — 3-inch to 2-inch NPS (75-mm to 50-mm DN) reducer
- CFR42 — 4-inch to 2-inch NPS (100-mm to 50-mm DN) reducer
- CFR43 — 4-inch to 3-inch NPS (100-mm to 75-mm DN) reducer

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.



CF3 Carbon Filter



CF6 Carbon Filter and CFR Recharge Packages



CFB32 Carbon Filter Bushing

# Miscellaneous Onsite Wastewater Products

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Orenco offers a wide assortment of miscellaneous products for general onsite use, including unions and valves, orifice shields, valve boxes, and flushing assemblies.

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## Miscellaneous Onsite Wastewater Products

### Unions (U)

Unions are used as a disconnection point in piping assemblies. ½-inch through 2-inch sizes available with slip fit or threaded connections; 3-inch and 4-inch sizes available with slip fit only.

- Schedule 80 PVC construction
- EPDM O-ring
- ½-inch, ¾-inch, 1-inch, 1¼-inch, 1½-inch, 2-inch, 3-inch, and 4-inch NPS sizes available

#### Sample Product Codes\*

- U1000S — Union, 1-inch (25-mm), slip fit
- U1000T — Union, 1-inch (25-mm), threaded
- U1250S — Union, 1¼-inch (32-mm), slip fit
- U1250T — Union, 1¼-inch (32-mm), threaded
- U1500S — Union, 1½-inch (40-mm), slip fit
- U1500T — Union, 1½-inch (40-mm), threaded
- U2000S — Union, 2-inch (50-mm), slip fit
- U2000T — Union, 2-inch (50-mm), threaded



Unions

### Quick-Disconnect Unions (Q)

Quick-disconnect unions are used as a fast, non-binding disconnection point in piping assemblies. Available in slip fit only.

- Schedule 80 PVC construction
- Slip fit only
- 1-inch, 1¼-inch, 1½-inch, and 2-inch NPS sizes available

#### Product Codes

- Q1000S — quick-disconnect union, 1-inch (25-mm), slip fit
- Q1250S — quick-disconnect union, 1¼-inch (32-mm), slip fit
- Q1500S — quick-disconnect union, 1½-inch (40-mm), slip fit
- Q2000S — quick-disconnect union, 2-inch (50-mm), slip fit



Quick-Disconnect Unions

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.

## Miscellaneous Onsite Wastewater Products

### Low-Pressure Gate Valves (V)

Sliding gate valves are used as an inexpensive valve for quick shut-off. Available in slip fit only.

- PVC body (per ASTM D-1784)
- Stainless steel paddle and shaft
- Santoprene® seal
- Slip fit only
- 4-inch, 6-inch, and 8-inch NPS sizes available

#### Product Codes

- V6201S — low pressure gate valve, 2-inch (50-mm) diameter, slip fit
- V6401S — low pressure gate valve, 4-inch (100-mm) diameter, slip fit
- V6601S — low pressure gate valve, 6-inch (150-mm) diameter, slip fit
- V6801S — low pressure gate valve, 8-inch (200-mm) diameter, slip fit



*Low-Pressure Gate Valve*

### High-Pressure Gate Valves (VG)

PVC high pressure gate valves are used in controlling flows and where throttling capabilities are desired. These valves are constructed of Schedule 40 High-Impact PVC type II per ASTM D-1785, with polypropylene paddles. All sizes are available with slip fit or threaded connections.

- Schedule 40 high-impact PVC Type II body (per ASTM D-1785)
- Screw-in, faucet-type handle
- Polypropylene paddle
- Non-rising stem
- Slip fit or threaded connections
- 1-inch, 1¼-inch, 1½-inch, and 2-inch NPS sizes available

#### Product Codes

- VG1000S — high-pressure gate valve, 1-inch (25-mm), slip fit
- VG1000T — high-pressure gate valve, 1-inch (25-mm), threaded
- VG1250S — high-pressure gate valve, 1¼-inch (32-mm), slip fit
- VG1250T — high-pressure gate valve, 1¼-inch (32-mm), threaded
- VG1500S — high-pressure gate valve, 1½-inch (40-mm), slip fit
- VG1500T — high-pressure gate valve, 1½-inch (40-mm), threaded
- VG2000S — high-pressure gate valve, 2-inch (50-mm), slip fit
- VG2000T — high-pressure gate valve, 2-inch (50-mm), threaded



*High-Pressure Gate Valve*

## Miscellaneous Onsite Wastewater Products

### Ball Valves (VLT)

PVC ball valves are used for shutting off flow to a distribution line. All sizes are available with either slip fit or threaded connections.

- Schedule 40 PVC Type II body
- EPDM O-ring
- Pre-loaded stem seal
- Slip fit or threaded connections available for all sizes
- ½-inch, ¾-inch, 1-inch, 1¼-inch, 1½-inch, and 2-inch NPS sizes available

#### Sample Product Codes\*

- VLT1000S — PVC ball valve, 1-inch (25-mm), slip fit
- VLT1000T — PVC ball valve, 1-inch (25-mm), threaded
- VLT1500S — PVC ball valve, 1½-inch (40-mm), slip fit
- VLT1500T — PVC ball valve, 1½-inch (40-mm), threaded
- VLT2000S — PVC ball valve, 2-inch (50-mm), slip fit
- VLT2000T — PVC ball valve, 2-inch (50-mm), threaded

### True Union Ball Valves (VTU)

True union ball valves combine the features of a PVC union and ball valve into one component.

- Schedule 80 PVC construction
- EPDM O-rings
- 1-inch, 1¼-inch, 1½-inch, 2-inch, 3-inch, and 4-inch NPS sizes available
- Includes slip fit and threaded connections in 1-inch through 2-inch sizes
- Available with slip fit or threaded connections in 3-inch and 4-inch sizes

#### Sample Product Codes\*

- VTU1000 — true union ball valve, 1-inch (25-mm), slip fit and threaded connections
- VTU1250 — true union ball valve, 1¼-inch (32-mm), slip fit and threaded connections
- VTU1500 — true union ball valve, 1½-inch (40-mm), slip fit and threaded connections
- VTU2000 — true union ball valve, 2-inch (50-mm), slip fit and threaded connections
- VTU4000S — true union ball valve, 4-inch (100-mm), slip fit

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.



Ball Valve



True Union Ball Valve



## Miscellaneous Onsite Wastewater Products

### Check Valves (KSC)

Check valves prevent backflow in a system, providing minimal resistance to normal flow but only requiring ½ lb (0.2 kg) back pressure for complete closure.

- Schedule 40 high-impact PVC Type II body (per ASTM D-1785)
- EPDM swing gate
- 1-inch, 1¼-inch, 1½-inch, 2-inch, 3-inch, and 4-inch NPS sizes available
- Slip fit or threaded connections available for all sizes

#### Sample Product Codes\*

- KSC1000S — check valve, 1-inch (25-mm), slip fit
- KSC1000T — check valve, 1-inch (25-mm), threaded
- KSC1250S — check valve, 1¼-inch (32-mm), slip fit
- KSC1250T — check valve, 1¼-inch (32-mm), threaded
- KSC2000S — check valve, 2-inch (50-mm), slip fit
- KSC2000T — check valve, 2-inch (50-mm), threaded

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.



Check Valve

## **Miscellaneous Onsite Wastewater Products**

### **Orifice Shields**

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

- Snap-fit on top of or beneath a lateral, depending on the location of the orifice
- Installs on top of lateral or underneath lateral
- Orifice Shields available to fit ¾-inch, 1-inch, 1¼-inch, 1½-inch, and 2-inch NPS sizes

### **Product Codes**

- OS075 — fits ¾-inch NPS (20-mm DN) lateral pipe
- OS100 — fits 1-inch NPS (25-mm DN) lateral pipe
- OS125 — fits 1¼-inch NPS (32-mm DN) lateral pipe
- OS150 — fits 1½-inch NPS (40-mm DN) lateral pipe
- OS200 — fits 2-inch NPS (50-mm DN) lateral pipe



*Orenco Orifice Shields*

*\* For the full range of available product options, contact your local Orenco Distributor or Orenco.*

## Miscellaneous Onsite Wastewater Products

### Valve Boxes

Orenco® Valve Boxes are used to provide access to flushing assemblies and distributing valve assemblies in onsite wastewater systems.

- Durable polyethylene construction

### Product Codes

- VB7 — 7-inch (178-mm) diameter, 10-inch (254-mm) deep round model
- VB1217 — 12-inch × 17-inch (305-mm × 432-mm) 10-inch (254-mm) deep rectangular model
- VBX1217 — 6-inch (150-mm) extension for VB1217 valve box, ordered separately

### Flushing Assemblies

Orenco® Flushing Assemblies provide easy access to drainfield laterals for maintenance.

- PVC construction
- End cap or ball valve available
- Available kit includes 7-inch (178-mm) diameter valve box

### Sample Product Codes\*

- SEA075V — flushing assembly, ¾-inch nominal diameter (20-mm DN) sweep ell with ball valve
- SEA125C — flushing assembly, 1¼-inch nominal diameter (32-mm DN) sweep ell with cap
- SEA125V — flushing assembly, 1¼-inch nominal diameter (32-mm DN) sweep ell with ball valve

\* For the full range of available product options, contact your local Orenco Distributor or Orenco.



VB7 Valve Box



Orenco Flushing Assembly

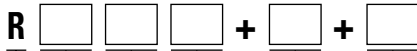
# **Product Ordering Information**

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## Ultra-Rib™ Access Risers

A product code diagram that describes standard options available for Orenco's Ultra-Rib™ access risers is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram



Discharge grommet option, in. (mm):

Blank = no discharge grommet

10 = 1 (25)

12 = 1 ¼ (32)

15 = 1 ½ (38)

20 = 2 (50)

Splice box grommet or splice box options (choose one):

Blank = no grommet or splice box

or

S = grommet installed, 1-in. (25-mm), fits SB1-SB4

L = grommet installed, 1 ¼-in. (32-mm), fits SB5-SB6

SX = hole drilled for Orenco® external splice box†

or

S1 = grommet and SB1 internal splice box installed

S2 = grommet and SB2 internal splice box installed

S3 = grommet and SB3 internal splice box installed

S4 = grommet and SB4 internal splice box installed

L5 = grommet and SB5 internal splice box installed

L6 = grommet and SB6 internal splice box installed

or

XS = grommet and simplex explosion-proof splice box installed†

XD = grommet and duplex explosion-proof splice box installed†

XT = grommet and triplex explosion-proof splice box installed†

Riser height in inches (3-in. increments standard)

Riser diameter:

12 = 12-in. (300-mm)\*

18 = 18-in. (450-mm)\*

24 = 24-in. (600-mm)

Riser type code:

R = 12-in. (300-mm) and 24-in. (600-mm) diameters

U = 18-in. (450-mm) diameter

PU = bulk Ultra-Rib™ pipe, all diameters

Riser, Ultra-Rib™

\* Not intended for use over pump vaults

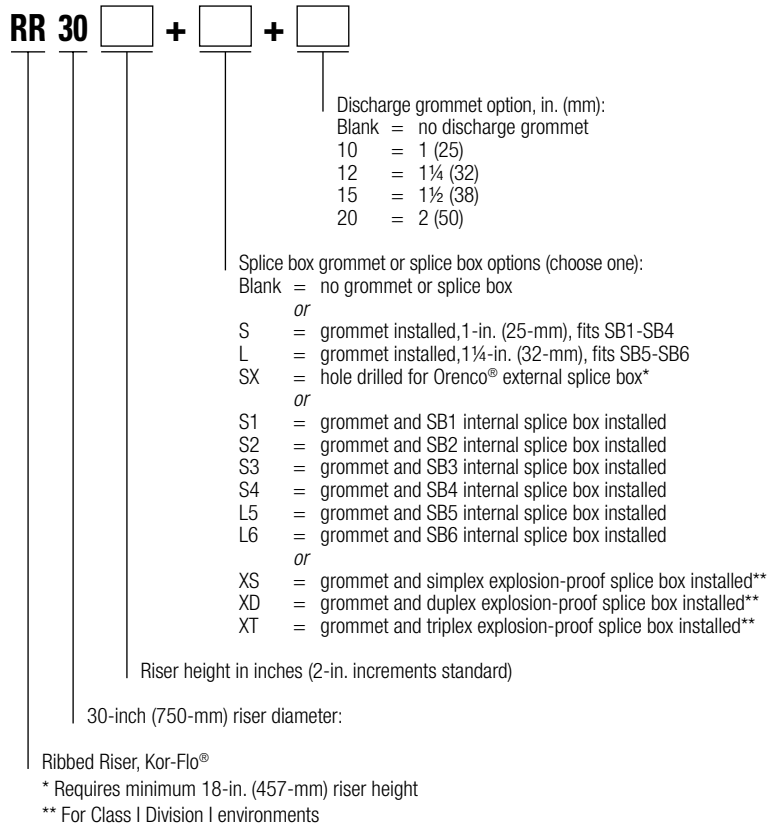
† Requires minimum 18-in. (457-mm) riser height

‡ For Class I Division I environments

## Kor-Flo™ Access Risers

A product code diagram that describes standard options available for Orenco's Kor-Flo™ access risers is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

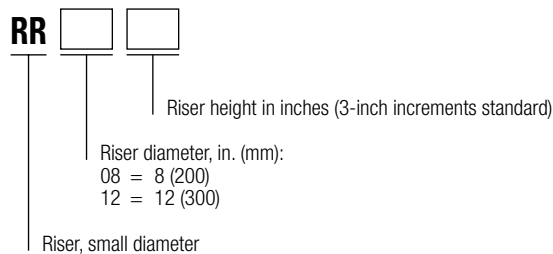
### Product Code Diagram



## Small-Diameter Access Risers

A product code diagram that describes standard options available for Orenco's small-diameter access risers (Class 63 IPS or PIP) is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

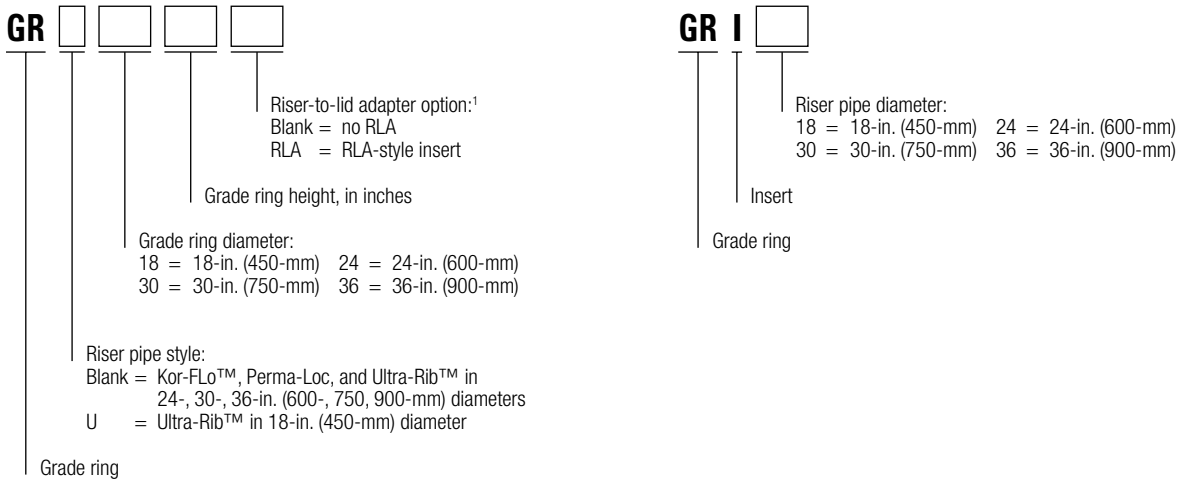
### Product Code Diagram



## Grade Rings and Grade Ring Inserts

Product code diagrams that describes standard options available for Orenco's grade rings and grade ring inserts is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram

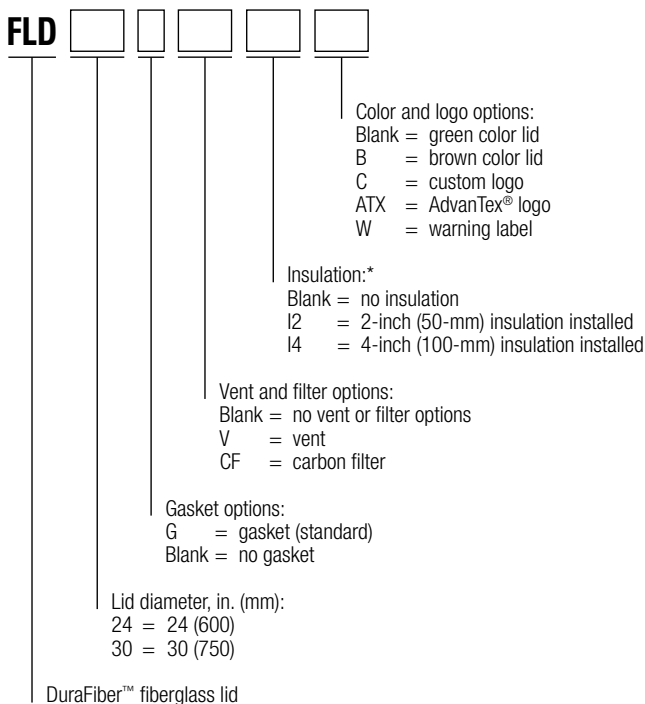


<sup>1</sup> For 24-in. (600-mm) grade rings only

## DuraFiber™ Fiberglass Access Lids

A product code diagram that describes standard options available for Orenco's DuraFiber™ fiberglass access lids is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram

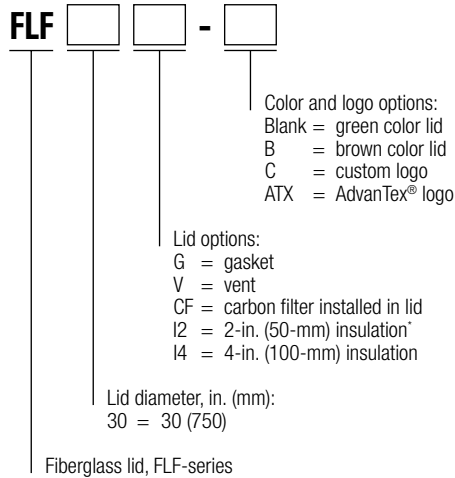


<sup>\*</sup> Insulation has an R-value of 10 per 2-inch (50-mm) increment.

## FLF-Series Fiberglass Access Lids

A product code diagram that describes standard options available for Orenco's fiberglass access lids is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram

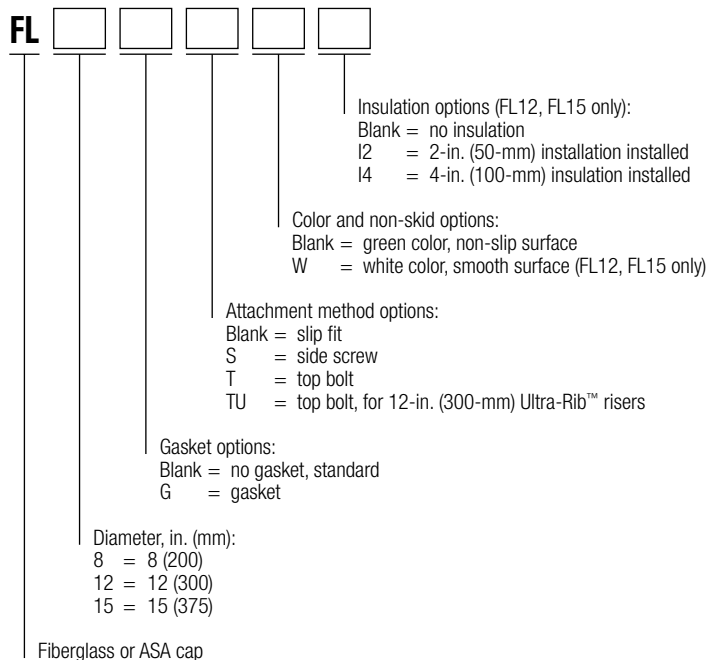


\* Lid insulation has an R-value of 10 per 2-inch (50-mm) increment

## Fiberglass Access Caps

A product code diagram that describes standard options available for Orenco's fiberglass access caps is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram



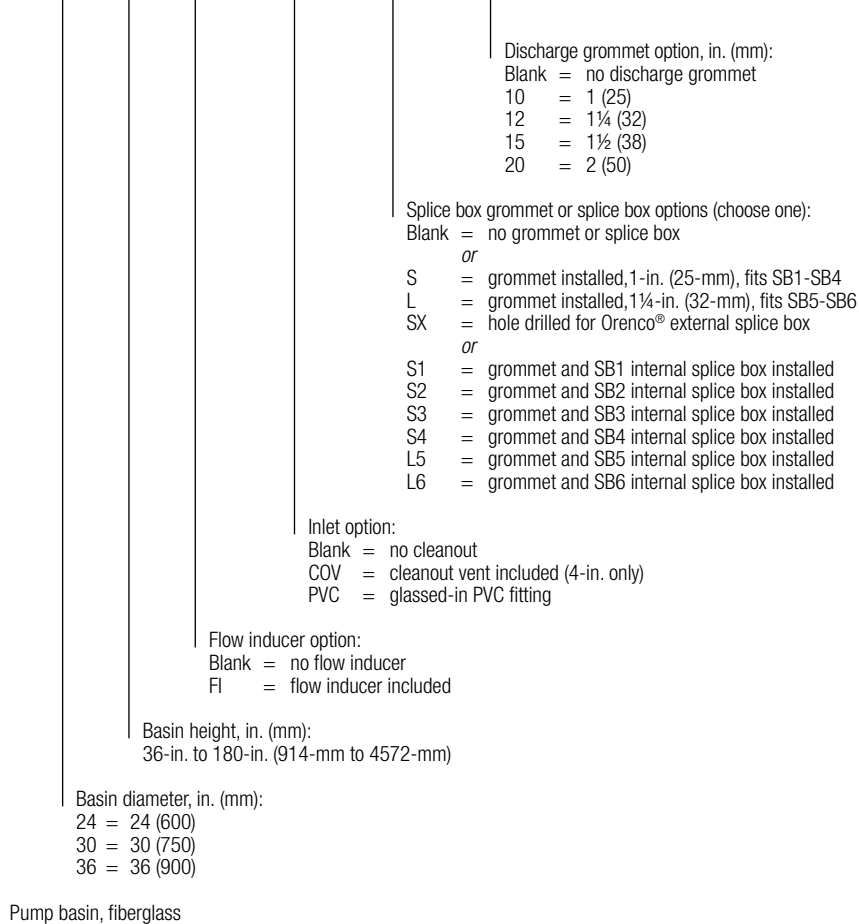


## Fiberglass Basins

A product code diagram that describes standard options available for Orenco's fiberglass basins is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram

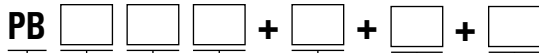
PBF    +  +  +



## PVC Basins

A product code diagram that describes standard options available for PVC Basins is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram



Discharge grommet option, in. (mm):

Blank = no discharge grommet  
 10 = 1 (25)  
 12 = 1¼ (32)  
 15 = 1½ (38)  
 20 = 2 (50)

Splice box grommet or splice box options (choose one):

Blank = no grommet or splice box  
*or*  
 S = grommet installed, 1-in. (25-mm), fits SB1-SB4  
 L = grommet installed, 1¼-in. (32-mm), fits SB5-SB6  
 SX = grommet installed, for Orenco® external splice box\*

*or*  
 S1 = grommet and SB1 internal splice box installed  
 S2 = grommet and SB2 internal splice box installed  
 S3 = grommet and SB3 internal splice box installed  
 S4 = grommet and SB4 internal splice box installed  
 L5 = grommet and SB5 internal splice box installed  
 L6 = grommet and SB6 internal splice box installed

*or*  
 XS = grommet and simplex explosion-proof splice box installed†  
 XD = grommet and duplex explosion-proof splice box installed†  
 XT = grommet and triplex explosion-proof splice box installed†

Cleanout vent option:

Blank = no cleanout  
 COV = cleanout vent included

Flow inducer option:

Blank = no flow inducer  
 FI = flow inducer included

Basin height, in. (mm):

54 = 54 (1372-mm)  
 60 = 60 (1524-mm)  
 66 = 66 (1676-mm)  
 72 = 72 (1829-mm)

Basin diameter, in. (mm):

18 = 18 (450-mm)  
 24 = 24 (600-mm)  
 30 = 30 (750-mm)

Pump basin, PVC

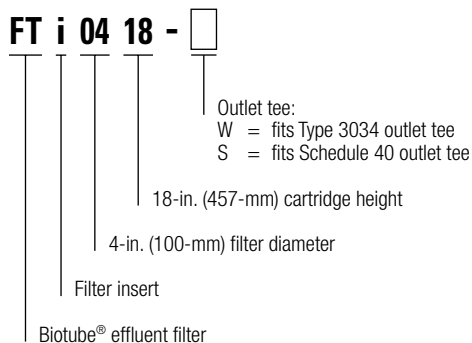
\* Requires minimum 18-in. (457-mm) riser height

† For Class I Division I environments

## Biotube® Effluent Filter Inserts

A product code diagram that describes standard options available for Orenco's Biotube® effluent filter inserts is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

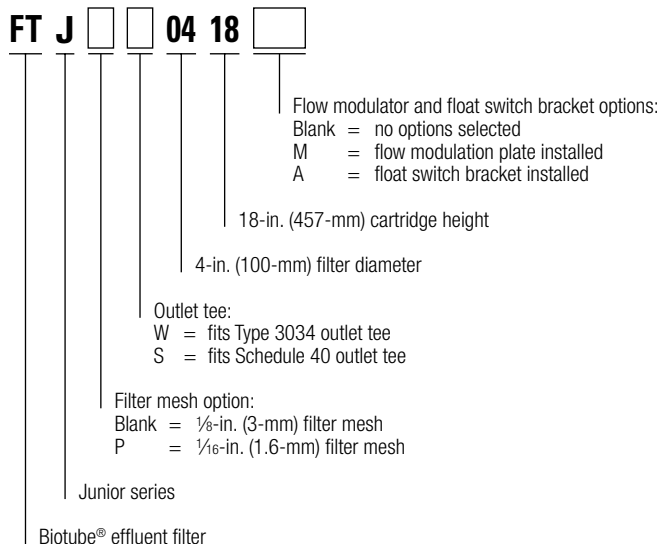
### Product Code Diagram



## Biotube® Junior Effluent Filters

A product code diagram that describes standard options available for Orenco's Biotube® Junior effluent filters is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram



## Biotube® FT Series Residential Effluent Filters

A product code diagram that describes standard options available for Orenco's Biotube® FT Series residential effluent filters is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram

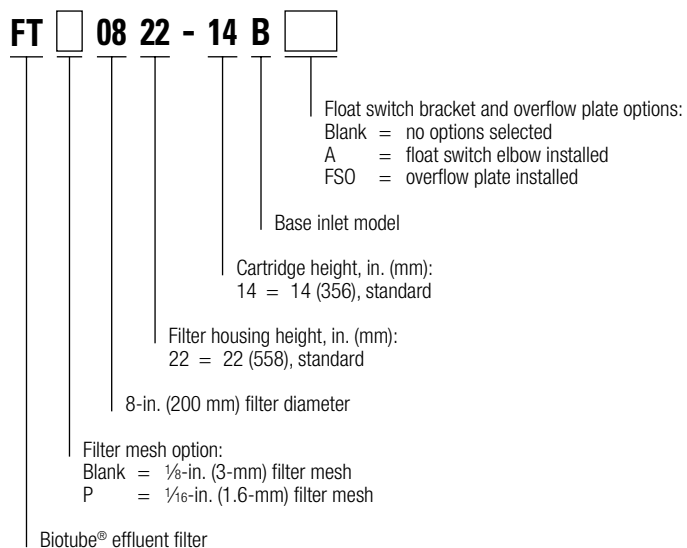
FT   04  -  -

- Flow modulator and float switch bracket options:  
 Blank = no options selected  
 M = flow modulation plate installed  
 A = float switch bracket installed
- Cartridge height, in. (mm):  
 28 = 28 (711), standard  
 36 = 36 (914), standard
- Filter housing height, in. (mm):  
 36 = 36 (914), standard  
 44 = 44 (1118), standard
- 4-in. (100-mm) filter diameter
- Outlet tee:  
 W = fits Type 3034 outlet tee  
 S = fits Schedule 40 outlet tee
- Filter mesh option:  
 Blank = 1/8-in. (3-mm) filter mesh  
 P = 1/16-in. (1.6-mm) filter mesh
- Biotube® effluent filter

## Biotube® FT Series Base Inlet Effluent Filters

A product code diagram that describes standard options available for Orenco's Biotube® FT Series base inlet effluent filters is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram



## Biotube® FT Series Commercial Effluent Filters

A product code diagram that describes standard options available for Orenco's Biotube® FT Series commercial effluent filters is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram

FT    - 36

Float switch bracket and slide rail options:  
 Blank = no options selected  
 A = float switch bracket installed  
 R = slide rail installed†

Cartridge height, in. (mm):  
 36 = 36 (914), standard

Housing height\*, in. (mm):  
 48 = 48 (1219)  
 54 = 54 (1372)  
 60 = 60 (1524)  
 66 = 66 (1676)

Filter diameter, in. (mm):  
 08 = 08 (200)  
 12 = 12 (300)  
 15 = 15 (375)

Filter mesh option:  
 Blank = 1/8-in. (3-mm) filter mesh  
 P = 1/16-in. (1.6-mm) filter mesh

Biotube® effluent filter

\* Minimum liquid level (MLL) information:  
 48-in. (1219-mm) housing for MLL of 37-46 in. (940-1168 mm)  
 54-in. (1372-mm) housing for MLL of 47-63 in. (1194-1600 mm)  
 60-in. (1524-mm) housing for MLL of 64-84 in. (1626-2134 mm)  
 66-in. (1676-mm) housing for MLL of 85-112 in. (2159-2845 mm)

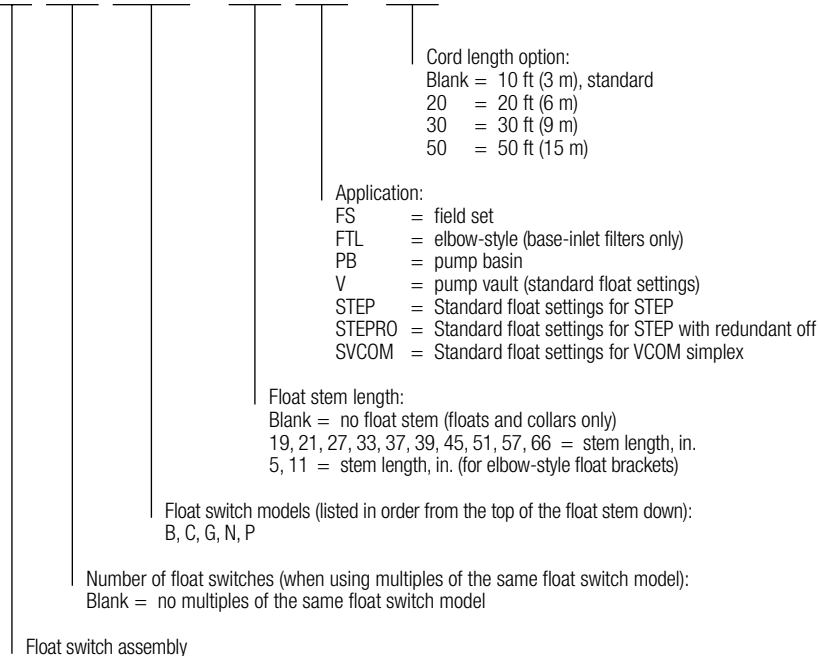
† For 12- and 15-in. (300- and 375-mm) only; use slide rail option when only one access is available for the filter chamber

## Float Switch Assemblies

A product code diagram that describes standard options available for Orenco's float switch assemblies is provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram

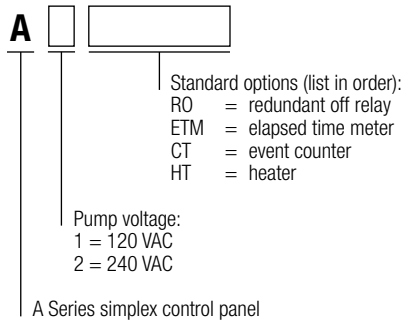
**MF**   -   -



## A Series Simplex Control Panels

A product code diagram and a complete list that describes standard options available for A Series Simplex Control Panels are provided below. When selecting options for the product code, please use the ranking order provided in the diagram and in the options list.

### Product Code Diagram



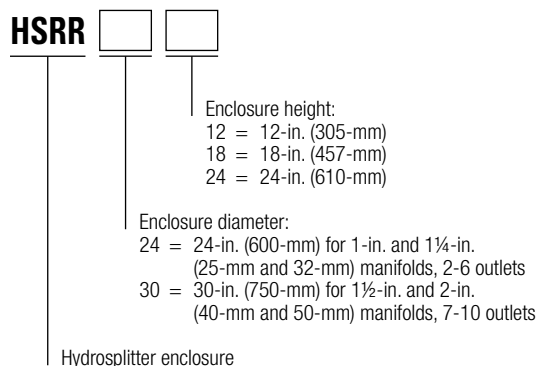
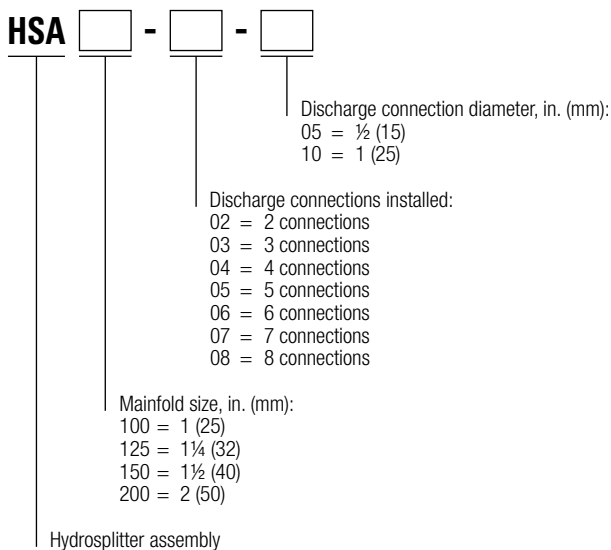
### Product Code Options, A Series Simplex Control Panels

Code	Name	Specifications (all voltages are 120 VAC unless otherwise noted)
RO	Redundant off relay	DIN rail mount; provides a secondary off; sounds alarm upon low level condition
ETM	Elapsed time meter	7-digit, non-resettable; limit of 99,999 hours; accurate to 0.01 hours
CT	Event counter	6-digit, non-resettable
HT	Heater	Anti-condensation heater; self-adjusting; radiates additional wattage as temperature drops

## Hydrosplitters and Hydrosplitter Enclosures

Product code diagrams that describes standard options available for Orenco's hydrosplitters and hydrosplitter enclosures are provided below. When selecting options for the product code, please use the ranking order provided in the diagram.

### Product Code Diagram





# Orenco Systems<sup>®</sup> Terms and Conditions

## 1. Offer and Acceptance

This document (the "Terms and Conditions") contains all of the terms and conditions of purchasing merchandise offered for sale by Orenco Systems, Inc. ("Orenco"). Unless a separate written agreement has been previously executed by duly authorized representatives of both Orenco and Purchaser that explicitly supersedes these Terms and Conditions (a "Prior Written Agreement"), Orenco's offer of sale is expressly limited to, and expressly made conditional on, the exclusive use of the terms and conditions herein.

Absent such a Prior Written Agreement, Purchaser's order of merchandise constitutes an acceptance of Orenco's offer to sell under these Terms and Conditions, regardless of Purchaser's order form or other documentation associated with the order that stipulates different or additional terms or conditions. Orenco deems any such different or additional terms as material alterations to these Terms and Conditions, and hereby objects to and rejects them.

Upon receipt of an order for merchandise from Purchaser, Orenco will send Purchaser an Order Confirmation, which reiterates these Terms and Conditions, to verify the accuracy of the order before releasing it for manufacturing. Failure to expressly object in a written instrument, independent of its order form or other documentation associated with the order, prior to Orenco's release of ordered merchandise for manufacturing, will conclusively evidence Purchaser's acceptance of these Terms and Conditions as exclusively governing the purchase of said merchandise, except when a conflicting provision of a Prior Written Agreement controls.

Once Orenco releases an order for manufacturing, Purchaser agrees to pay Orenco a cancellation fee if Purchaser cancels the order, or any part thereof, prior to delivery. Orenco, in good faith, will determine the cancellation fee in an amount approximating the costs expended by Orenco before the cancellation, up to the full cost of the merchandise.

## 2. Custom Products

Merchandise not listed in Orenco's catalogs or standard price lists, or that must be custom built to the specifications of Purchaser, will be considered "Custom Products" within this document. Custom Products do not include standard merchandise that requires minor modifications, such as being cut to a specified length. Unless a Prior Written Agreement controls, if Purchaser orders a Custom Product, and Orenco agrees to manufacture and/or sell it: (a) these Terms and Conditions will exclusively govern the purchase; (b) Purchaser will defend Orenco at its cost and expense, and will indemnify and hold Orenco harmless from and against any United States or foreign patent infringement suit related to the Custom Product brought upon Orenco by third parties; and (c) Purchaser will defend Orenco at its cost and expense, indemnify and hold Orenco harmless, and assume all responsibility for ensuring: (i) the components it provides Orenco for use in the Custom Product meet the designer's functional requirements and/or specifications; (ii) the compatibility of the Custom Product for its intended use; and (iii) the adequacy of the engineering, design or specifications furnished by Purchaser to Orenco.

Prior to releasing an order for a Custom Product for manufacturing, Orenco will submit its drawings, schematics, and/or other documentation of the critical elements of the Custom Product to the designer for review, to ensure that it will be manufactured to meet the designer's functional requirements and/or specifications. Orenco will only release the order for the Custom Product for manufacturing once it has received confirmation that the designer has reviewed and approved any such submittal documents.

## 3. Delivery

Orenco agrees to deliver all merchandise ordered by Purchaser for shipping within 30 days of the date Orenco receives an order and all required prepayments, unless Orenco notifies Purchaser prior to the expiration of the 30-day period of any reasonable, foreseeable delays.

Merchandise will be delivered FOB Shipping Point (Origin) when it is staged for shipping from Orenco's facilities, and Purchaser will assume the risk of loss for the merchandise at that time.

In the event Purchaser requests expedited delivery of merchandise, and Orenco agrees to the request, Purchaser will be charged an expedite fee equal to the greater of \$50.00 or 10% of the merchandise price.

## 4. Shipping

Purchaser is responsible for shipping its merchandise from Orenco's facilities. Purchaser may transport the merchandise itself, arrange for transportation of the merchandise with carriers of its choosing, or have Orenco arrange transportation of the merchandise on its behalf. If Purchaser fails to clearly identify which Party it chooses to make the arrangements on an order, Orenco will arrange the transportation of the merchandise associated with the order by selecting the method, carrier, and routing of the shipment directly or through a broker on behalf of the Purchaser.

Purchaser will be responsible for all costs associated with transporting the merchandise from Orenco's facilities, including all freight and insurance costs, as follows:

- (a) **Will-Call; Collect.** If Purchaser arranges transportation with a third-party carrier, Purchaser will arrange to pay the third party for the service directly. Purchaser agrees to pay Orenco for Handling, as itemized on a quotation, Order Confirmation, or invoice, if Purchaser transports the merchandise itself or arranges transportation with a third-party carrier. "Handling" consists of a commercially-reasonable fee to account for each pallet, crate, container, or other packaging provided by Orenco.
- (b) **Prepaid and Add.** If Purchaser has Orenco arrange transportation of the merchandise on its behalf, Orenco will pay the third party for the service directly or through a broker. Purchaser agrees to pay Orenco for both Shipping and Handling, as itemized on a quotation, Order Confirmation, or invoice, as follows: (i) "Shipping" consists of reimbursement of all actual freight and insurance costs paid by Orenco, including all accessorial charges from the carrier for items such as residential or construction site deliveries, unloading delays, or use of lift gates, as well as any other fees, duties, tariffs, or taxes that may be applied on the merchandise by third parties after they are delivered, including storage fees and import, export, and transportation fees, duties, tariffs, and taxes. (ii) "Handling" consists of a commercially-reasonable fee to account for each pallet, crate, container, or other packaging provided by Orenco, and a fee for arranging transportation in an amount equal to 5% of the Shipping costs paid by Orenco.

In instances where Orenco arranges for the transportation of merchandise on Purchaser's behalf, Orenco will promptly notify Purchaser of any information it receives from its broker or a carrier indicating a delay in the scheduled arrival of the transport at the agreed-upon destination, and Purchaser agrees to ensure that the equipment necessary to unload the merchandise is present at the carrier's destination at the time of the scheduled arrival. Unless Orenco fails to notify Purchaser of a delay in the scheduled delivery of the merchandise for shipping or withholds information it receives regarding a delayed arrival at the destination, Purchaser will hold Orenco harmless from and against any and all charges, costs, and other consequential damages caused by a delay in the arrival of the merchandise at the agreed-upon destination at the scheduled time.

## 5. Taxes

Purchaser will be responsible for the payment of all federal, state, provincial, county, local, or government taxes, including but not limited to, sales tax, use tax, value-added tax, goods and services tax, or other excise tax that may be applied on the merchandise ("Taxes"), and will indemnify and hold Orenco harmless from those Taxes. Orenco will be responsible for any tax based solely upon its net income. Purchaser may supply Orenco with a valid Resale Certificate or other form certifying an exemption from the payment of Taxes from the taxing authority having proper jurisdiction over the order.

## 6. Payment Terms

Purchaser agrees to promptly pay Orenco for merchandise, and any Taxes, Shipping, Handling, or other costs associated with the merchandise, in accordance with the terms below:

- (a) **Prepayment.** Purchaser may pay Orenco prior to delivery for merchandise, Taxes, estimated Shipping and Handling, and other costs associated with the purchase order. However, Purchaser must prepay in the following circumstances: (i) If Purchaser does not have a credit account with Orenco, Purchaser must pay 100% of the full price of the merchandise, plus estimated Shipping and Handling, and other associated costs, before Orenco will release an order for manufacturing. (ii) If Purchaser does not have available credit remaining on its account with Orenco, it must pay all amounts in excess of its available credit, up to 100% of the full price of the merchandise, Taxes, estimated Shipping and Handling, and other associated costs, before Orenco will release an order for manufacturing.
- (b) **On Account.** If Purchaser has a credit account with Orenco, has available credit on its account, and has not prepaid in full, Orenco will invoice Purchaser for amounts owed for delivered merchandise, Taxes, Shipping, Handling, and other associated costs. Unless otherwise agreed upon by the Parties in writing, Purchaser must pay each invoice in full within 30 days from the date of the invoice ("Net 30"). If Purchaser fails to pay an invoice in full within the term of the invoice: (i) the delinquent amount will bear a finance charge of 1.5% per month, accruing daily from the day after it is due; (ii) Orenco may refuse to honor any subsequent order from Purchaser until all delinquent invoices are paid in full; (iii) Purchaser will pay all of Orenco's reasonable collection expenses incurred in collecting the delinquent amount;

and (iv) if any suit, action, or proceeding is instituted by Orenco to collect the delinquent amount, Purchaser will pay all investigation and litigation costs, including reasonable attorneys' fees, incurred by Orenco before, during, or after trial or appeal.

## 7. Return of Merchandise

Purchaser may not return merchandise without the prior approval of Orenco. Merchandise must be securely packed to reach Orenco without damage. Except when covered by a Limited Warranty, merchandise accepted for return is subject to a restocking fee and all transportation charges. Orenco, in good faith, will determine the restocking fee and the amount that will be credited or refunded to Purchaser for the returned merchandise.

## 8. Limited Warranty

Subject to the exclusions, limitations, and conditions contained herein, Orenco warrants to Purchaser and subsequent owners, for a period of one year after delivery, that all merchandise will be free from defects in materials and workmanship that cause the merchandise to lose structural integrity, or to electrically or mechanically operate improperly. Neither merchandise consumed in the regular course of use, nor the loss of structural integrity or improper electrical or mechanical operation that results from a failure to follow any installation, operation, or maintenance instructions provided by Orenco, constitute a defect in the merchandise. If a separate written warranty instrument exists between Orenco or another manufacturer and Purchaser, the terms and conditions of said instrument control.

**Exclusive Remedy.** The exclusive remedy under this Limited Warranty will be the obligation of Orenco to repair or exchange, at its discretion, any defective merchandise. Defects in materials or workmanship will be determined in good faith upon inspection by Orenco. When practicable, Purchaser should return merchandise for inspection. Labor is not covered under this Limited Warranty.

In the event Orenco determines that merchandise is defective in materials or workmanship and covered by this Limited Warranty, Orenco will credit or reimburse Purchaser for all reasonable transportation charges incurred in returning the merchandise, if applicable, and will be responsible for all charges to transport repaired or exchanged merchandise to Purchaser. The warranty period for such repaired or exchanged merchandise will continue to toll from the delivery date of the original purchase. In the event Orenco determines that merchandise is not defective in materials or workmanship, or is not covered by this Limited Warranty, Orenco will charge Purchaser for all inspection costs incurred by Orenco, including reasonable travel costs, testing fees, and all reasonable transportation charges required to return the merchandise to the purchaser, as applicable.

**PURCHASER AGREES THAT ORENCO WILL NOT BE LIABLE FOR ANY LOSS, INJURY, OR DAMAGES TO PERSONS OR PROPERTY RESULTING FROM FAILURE OF, OR ANY DEFECT IN, THE MERCHANDISE, NOR WILL ORENCO BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES OF ANY KIND. IN NO EVENT MAY THE LIABILITY OF ORENCO UNDER THIS LIMITED WARRANTY EXCEED THE INVOICED PRICE OF THE MERCHANDISE.**

**Disclaimer. EXCEPT AS SPECIFIED IN THIS LIMITED WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, ACCURACY OF INFORMATIONAL CONTENT, OR THOSE ARISING FROM A COURSE OF DEALINGS, LAW, USAGE, OR TRADE PRACTICE, MAY ONLY BE CLAIMED DURING THE WARRANTY PERIOD, AND THEREAFTER ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED TO THE EXTENT ALLOWED BY LAW.**

## 9. Waiver

The failure of either Party on any occasion to exercise any right granted hereunder will not operate as a waiver of the right as to subsequent occasions, and will not act to modify these Terms and Conditions.

## 10. Governing Law

The laws of the state of Oregon will govern these Terms and Conditions, together with all rights, obligations, and disputes arising out of or related thereto. The Parties hereby expressly disclaim any and all rights, obligations, or procedural or jurisdictional requirements granted or imposed by the United Nations Convention on Contracts for the International Sale of Goods ("CISG"). Any dispute or legal action arising out of or relating to these Terms and Conditions will be brought in and decided by State Courts of Oregon. In any such dispute or action, Purchaser consents to the jurisdiction and venue of the Circuit Court of the State of Oregon for Douglas County.

# Orenco® Wastewater Systems

## Limited Warranty for General Onsite Wastewater Products

### L I M I T E D   W A R R A N T Y

#### Commitment to Quality

Since 1981, Orenco Systems®, Incorporated ("Orenco"), has been a company that researches, designs, manufactures, and sells high-quality products. We see ourselves as more than a "business." We see ourselves as a company that makes the planet a cleaner, healthier place, a company that is *Changing the Way the World Does Wastewater.*®

Any wastewater system can be affected by improper design, installation, lack of maintenance, or system abuse. Although our products are carefully designed and constructed, it's still important to pay strict attention to system design and installation instructions and to follow through with intelligent usage and regular maintenance.

#### Limited Warranty Coverage

Subject to the exclusions, limitations, and conditions contained herein, Orenco warrants that all of its products designed for use in wastewater applications, which are not components in an Orenco collection or treatment system covered by a separate written warranty or individual products covered by a separate written warranty, will be free from defects in materials or workmanship that cause the product to lose structural integrity or to electrically or mechanically operate improperly for a period of time corresponding to the type of product (the "Warranty Period"), as follows:

- (a) If the product is a Biotube® Effluent Filter used in a single-family residential wastewater system: for the life of the wastewater system.
- (b) If the product is a 500-, 1,000-, 1,500-, or 2,000-gallon (1900-, 3785-, 5678-, or 7570-L) Orenco fiberglass reinforced polyester ("FRP") tank: for five years after the tank has been delivered to the end-user.
- (c) If the product is an Orenco PVA-series, multiple-stage, high-head, submersible turbine effluent pump: for 18 months from the date of manufacture on the liquid end of said pump.
- (d) If the product is an Orenco PF-series, multiple-stage, high-head, submersible turbine effluent pump: for five years from the date of manufacture on the liquid end of said pump.
- (e) For all other products not specifically listed above: for one year after the product has



been delivered to the end-user, except as may be otherwise provided in a separate written warranty instrument between Orenco and the end-user or from another manufacturer. If a separate warranty instrument exists, the terms and conditions of said instrument control.

#### Obtaining Warranty Service

To make a claim under this Limited Warranty, directly contact your Orenco Dealer, Supplier, or Distributor ("Orenco's Representative"), who will process your claim. If for some reason Orenco's Representative is unavailable, or if you purchased the product directly from Orenco, contact Orenco by phone (800-348-9843 or +1-541-459-4449) to make your claim.

Any warranty claim must be received no later than the expiration of the Warranty Period listed above.

If requested by Orenco, potentially defective products must be returned to Orenco's Sutherlin, Oregon facility through Orenco's Representative, if applicable, transportation prepaid.

#### Exclusive Remedy

The exclusive remedy for any claim under this Limited Warranty shall be the obligation of Orenco to repair or replace, at its discretion, any defective products. Labor is not covered under this Limited Warranty. Defects in materials or workmanship will be determined in good faith by Orenco upon receipt and inspection of a returned product. Products shall not be deemed to be defective if the failure, malfunction, or damage was caused by, or resulted from:

- (a) the product not being installed, operated, or maintained in accordance with any applicable instructions provided;
- (b) abuse, misuse, accident, or negligence;
- (c) a lightning strike or other catastrophic event beyond the control of Orenco; or
- (d) modification of the product.

In the event Orenco determines that a returned product is defective in materials or workmanship and covered by this Limited Warranty, Orenco will credit or reimburse you for all reasonable transportation charges incurred in returning the product, and will be responsible for all reasonable transportation charges to return the repaired or replacement product to you. Such repaired or replacement product shall continue to be warranted under the Limited Warranty of the original purchase. In the event Orenco determines that a returned product is not defective in materials or workmanship, or is not covered by this Limited Warranty, Orenco may charge you a testing fee and all reasonable transportation charges required to return the product to you.

**ORENCO SHALL NOT BE LIABLE FOR ANY LOSS, INJURY, OR DAMAGES TO PERSONS OR PROPERTY RESULTING FROM FAILURE OF, OR ANY DEFECT IN, THE PRODUCT, OR FOR ANY TECHNICAL ASSISTANCE OR INFORMATION THAT ORENCO MAY HAVE PROVIDED TO YOU. NOR SHALL ORENCO BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, PLANT DOWNTIME, FINES OR PENALTIES, OR LAWSUITS BY THIRD PARTIES. IN NO EVENT SHALL THE LIABILITY OF ORENCO UNDER THIS LIMITED WARRANTY EXCEED THE TOTAL INVOICED PRICE, EXCLUDING INSTALLATION AND/OR STARTUP COSTS, OF THE PRODUCT.**

#### Disclaimer

**EXCEPT AS SPECIFIED IN THIS LIMITED WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, ACCURACY OF INFORMATIONAL CONTENT, OR THOSE ARISING FROM A COURSE OF DEALINGS, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW, AND ARE EXPRESSLY DISCLAIMED BY ORENCO.**

# Orenco® Controls

## Limited Warranty for Electrical Control Panels

### L I M I T E D   W A R R A N T Y

#### Commitment to Quality

For over 30 years, Orenco® Controls (a division of Orenco Systems®, Incorporated – “Orenco”) has been known as a company that designs, manufactures, and sells high-quality standard and custom electrical control panels. We provide custom solutions for every application – from simple alarm panels with a single custom component to highly sophisticated panels that are totally customized with programmable logic, variable frequency drives, reduce voltage starters, or remote telemetry. Our assembly facility is equipped to build virtually any electrical control panel to your specifications, whether you need one unit or thousands.

#### Limited Warranty Coverage

Subject to the exclusions, limitations, and conditions contained herein, Orenco warrants that all of its standard and custom electrical control panels, which are not covered by a separate written warranty, will be free from defects in materials or workmanship that cause the product to lose structural integrity or to electrically or mechanically operate improperly for a period of three years after the panel has been delivered to the end-user (the “Warranty Period”), except as follows:

- (a) The Warranty Period for Variable Frequency Drive (VFD) components in an electrical control panel shall be one year from the date of the component’s manufacture.
- (b) The Warranty Period for Reduced Voltage Soft Start (RVSS) components in an electrical control panel shall be one year from the date of the component’s manufacture.

#### Exclusions

The following components in an electrical control panel are not covered by this Limited Warranty, though any warranties offered by the components’ manufacturer may still apply:

- (a) Customer-supplied components, or
- (b) Customer-specified components that are not approved by Orenco.



#### Obtaining Warranty Service

To make a claim under this Limited Warranty directly contact your Orenco Dealer, Supplier, or Distributor (“Orenco’s Representative”), who will process your claim. Please provide them with the control panel’s unique UL® Number, typically located on the inside of the enclosure door, to aid in processing the claim.

If for some reason Orenco’s Representative is unavailable, or if you purchased the product directly from Orenco, contact Orenco by phone (800-348-9843 or +1-541-459-4449) or by e-mail (electricalreturns@orenco.com) to make your claim.

Warranty claims must be made no later than the expiration of the Warranty Period listed above.

If requested by Orenco, potentially defective products must be returned to Orenco’s Sutherlin, Oregon facility through Orenco’s Representative, if applicable, transportation prepaid.

#### Exclusive Remedy

The exclusive remedy for any claim under this Limited Warranty shall be the obligation of Orenco to repair or replace, at its discretion, any defective products. Labor is not covered under this Limited Warranty. Defects in materials or workmanship will be determined in good faith by Orenco upon receipt and inspection of a returned product. Products shall not be deemed to be defective if the failure, malfunction, or damage was caused by, or resulted from:

- (a) the product not being installed, operated, or maintained in accordance with any applicable instructions provided;
- (b) abuse, misuse, accident, or negligence;
- (c) a lightning strike or other catastrophic event beyond the control of Orenco; or
- (d) modification of the product.

In the event Orenco determines that a returned product is defective in materials or workmanship and is covered by this Limited Warranty, Orenco will credit or reimburse you for all reasonable transportation charges incurred in returning the product, and will be responsible for all transportation charges to return the repaired or replacement product to you. Such repaired or replacement product shall continue to be warranted under the Limited Warranty of the original purchase. In the event Orenco determines that a returned product is not defective in materials or workmanship, or is not covered by this Limited Warranty, Orenco may charge you a testing fee and all reasonable transportation charges required to return the product to you.

**ORENCO SHALL NOT BE LIABLE FOR ANY LOSS, INJURY, OR DAMAGES TO PERSONS OR PROPERTY RESULTING FROM FAILURE OF, OR ANY DEFECT IN, THE PRODUCT, OR FOR ANY TECHNICAL ASSISTANCE OR INFORMATION THAT ORENCO MAY HAVE PROVIDED TO YOU. NOR SHALL ORENCO BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, PLANT DOWNTIME, FINES OR PENALTIES, OR LAWSUITS BY THIRD PARTIES. IN NO EVENT SHALL THE LIABILITY OF ORENCO UNDER THIS LIMITED WARRANTY EXCEED THE TOTAL INVOICED PRICE, EXCLUDING INSTALLATION AND/OR STARTUP COSTS, OF THE PRODUCT.**

#### Disclaimer

**EXCEPT AS SPECIFIED IN THIS LIMITED WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, ACCURACY OF INFORMATIONAL CONTENT, OR THOSE ARISING FROM A COURSE OF DEALINGS, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW, AND ARE EXPRESSLY DISCLAIMED BY ORENCO.**

**Orenco®** | *General Onsite Wastewater Products*

*Product Catalog*



814 Airway Ave., Sutherlin, OR 97479 USA  
800-348-9843 • 541-459-4449

[www.orenco.com/product\\_catalogs](http://www.orenco.com/product_catalogs)

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