



Orenco[®] | *General Onsite Wastewater Products*

Product Catalog

Orenco[®]

Orenco Systems[®], Incorporated
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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 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

Online Catalogs

Downloadable versions of all Orenco's catalogs are available on Orenco's website: 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.

Contents

To Our Customers2

Fiberglass Tanks5

 500-Gallon (1890-L) Fiberglass Tanks (T500)6

 1000-Gallon (3785-L) Fiberglass Tanks (T1000)7

 1500-Gallon (5678-L) Fiberglass Tanks (T1500)8

 2000-Gallon (7570-L) Fiberglass Tanks (T2000)9

Chart: 1000-, 1500-, and 2000-Gallon Fiberglass Tank Volume.....10

Chart: 500-Gallon Fiberglass Tank Volume12

Access Risers and Accessories13

 Ultra-Rib™ Access Risers (RR, RU, RPU)14

 Kor-Flo™ Access Risers (RR, RP)15

 Small-Diameter Access Risers (RR, RA)16

 Riser Tank Adapters (FRTA, PRTA, RRFTA)17

 Roth MultiTank® Adapters (FRTA).....18

 Adapter Bolt Down Kits (PRTA, RRFTA, RUBD).....19

 Grade Rings and Grade Ring Inserts (GR, GRI)20

 Riser-to-Lid Adapters (RLA).....20

 Insulation Plugs (INS)21

 Riser Safety Grates (RG)21

 Riser-Cutting Saw Guides (RUSJ)22

 Riser Cutting Stations (RR-CUTTING)22

 Drill Fixtures (RK, RUDJ)22

 Hole Saw/Rib Cutters (RKHS)23

 Grommets (G)23

 Adhesives and Adhesive Dispensing Guns (ADH, MA).....24

Chart: Adhesive Product Descriptions and Applications.....24

Chart: Adhesive Product Recommendations and Quantities25

Access Lids and Accessories26

 DuraFiber™ Fiberglass Access Lids (FLD).....27

 Custom Fiberglass Logo Lids (FLD).....27

 Fiberglass Landscape Lids (FLD)27

 FLF-Series Fiberglass Access Lids (FLF)28

 Fiberglass Access Caps (FL)28

 Lid Bolts, Screws, Wrenches, and Bits (RRL, RUL, RRT)29

Basins.....30

 External Filter Basins (FTB)31

 Stormwater Catch Basins (SCB)32

 Fiberglass Basins (PBF)33

 PVC Basins (PB)34

Effluent Filters.....35

 Biotube® Effluent Filter Inserts (FTI)36

 Biotube® Junior Effluent Filters (FTJ)36

 Biotube® FT Series Residential Effluent Filters (FT).....37

 Biotube® FT Series Base Inlet Effluent Filters (FT)38

 Biotube® FT Series Commercial Effluent Filters (FT)39

Ultraviolet (UV) Disinfection Units40

 UV Disinfection Units41

Float Switches, Assemblies, and Accessories42

Chart: Float Switch Selection Matrix43

 Float Switches44

 Float Switch Assemblies (MF).....48

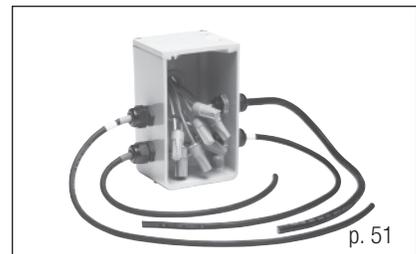
 Float Switch Collars (MFCOLLAR)48

 Float Brackets (PBF, RRFB)49



Orenco® | General Onsite Wastewater Products Catalog

Splice Boxes and Accessories	50
Internal Splice Boxes (SB).....	51
External Splice Boxes (SBEX).....	52
Conduit Seal Kits (SBCS).....	53
Cord Grips (SBCG).....	53
Waterproof Wire Nuts (SBAB).....	54
Chart: Waterproof Wire Nut Capacities.....	54

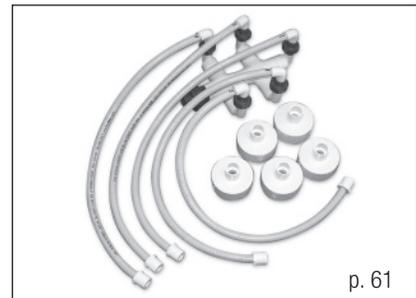


Alarm Panels	55
A Series Simplex Control Panels.....	56
AMAHW Liquid Level Alarm Panels.....	57
AMLAHW Liquid Level Alarm Panels.....	57
AMSGBA Single-Gang Alarm.....	58
9-VDC Liquid Level Alarm Panels.....	59



Hydrosplitters	60
Hydrosplitters (HSA).....	61
Hydrosplitter Enclosures (HSRR).....	61
Flow Control Discs and Assemblies (FC).....	62

Carbon Filters and Accessories	63
CF Carbon Filters (CF).....	64
CFR Carbon Filter Recharge Packages (CFR).....	64
CFB Carbon Filter Bushings (CFB).....	64



Miscellaneous Onsite Wastewater Products	65
Unions (U).....	66
Quick-Disconnect Unions (Q).....	66
Low-Pressure Gate Valves (V).....	67
High-Pressure Gate Valves (VG).....	67
Ball Valves (VLT).....	68
True Union Ball Valves (VTU).....	68
Check Valves (KSC).....	69
Orifice Shields (OS).....	70
Valve Boxes (VB).....	71
Flushing Assemblies (SEA).....	71

Product Ordering Information	72
Ultra-Rib™ Access Risers.....	73
Kor-Flo™ Access Risers.....	74
Small-Diameter Access Risers.....	74
Grade Rings and Grade Ring Inserts.....	75
DuraFiber™ Fiberglass Access Lids.....	75
FLF-Series Fiberglass Access Lids.....	76
Fiberglass Access Caps.....	76
Fiberglass Basins.....	77
PVC Basins.....	78
Biotube® Effluent Filter Inserts.....	79
Biotube® Junior Effluent Filters.....	79
Biotube® FT Series Residential Effluent Filters.....	80
Biotube® FT Series Base Inlet Effluent Filters.....	81
Biotube® FT Series Commercial Effluent Filters.....	82
Float Switch Assemblies.....	83
A Series Simplex Control Panels.....	84
Hydrosplitters and Hydrosplitter Enclosures.....	84



Terms and Conditions

Warranties

Notes

Fiberglass Tanks

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%.

Fiberglass Tanks

500-Gallon (1890-L) Fiberglass Tanks (T500)

Orenco's 500-gallon (1890-L) fiberglass tanks are designed for underground use as pump tanks in onsite residential and commercial wastewater collection and treatment systems, as well as for grease tanks and tanks for non-potable rainwater collection.

- Durable, lightweight FRP construction
- Injection-molded for part consistency and quality
- 100% watertight — factory-tested before shipping
- 623 gallons (2347 L) total volume available
- Direct-fit for 12-24-inch (300-600-mm) Orenco access risers
- Adapters available for 30-inch (750-mm) access risers
- 2-inch (50-mm) inlet and outlet plumbing, standard
- 4-inch (100-mm) inlet adapters available
- 72-inch (1828-mm) maximum burial depth
- IAPMO approved for grease tanks
- Not approved for use with potable water

Sample Product Codes*

- T500-24 — 500-gallon (1890-L) fiberglass tank, 24-inch (600-mm) access riser opening
- T500-24-30 — 500-gallon (1890-L) fiberglass tank, nominal 24-inch (600-mm) access riser opening, 30-inch (750-mm) riser adapter installed

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



500-Gallon (1890-L) Fiberglass Tank

Fiberglass Tanks

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

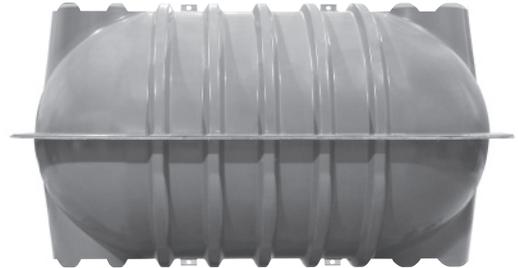
Orenco's 1000-gallon (3785-L) fiberglass tanks are designed for underground use in onsite residential and commercial wastewater collection and treatment systems, community-wide effluent sewer systems, grease tanks, and non-potable rainwater collection. When used as a septic tank or interceptor tank, 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)

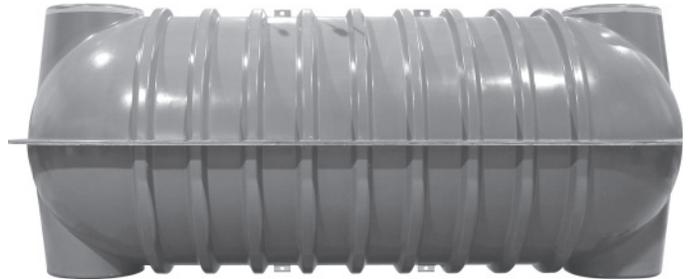
Orenco's 1500-gallon (5678-L) fiberglass tanks are designed for underground use in onsite residential and commercial wastewater collection and treatment systems, community-wide effluent sewer systems, grease tanks, and non-potable rainwater collection. When used as a septic tank or interceptor tank, 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)

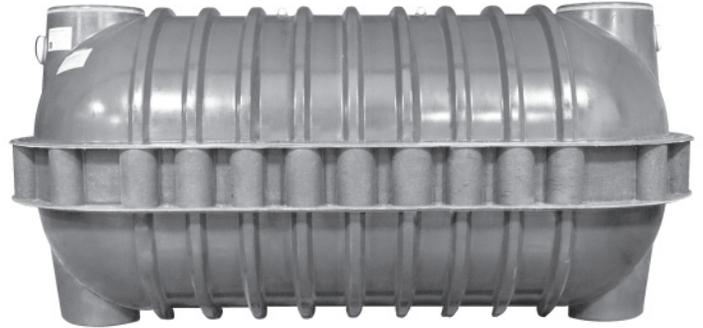
Orenco's 2000-gallon (7570-L) fiberglass tanks are designed for underground use in onsite residential and commercial wastewater collection and treatment systems, community-wide effluent sewer systems, grease tanks, and non-potable rainwater collection. When used as a septic tank or interceptor tank, 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: 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.

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

Example:
If a 1000-gallon tank is filled to a liquid depth of 49 inches, the liquid volume in the tank is 1011 gallons. The float setting is 15 inches and the volume per inch at that setting is 20 gallons.

Liquid Depth: 1000- and 1500-Gallon Tanks

	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
Top of 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 of Tank	Floor	—	—	0	—	0

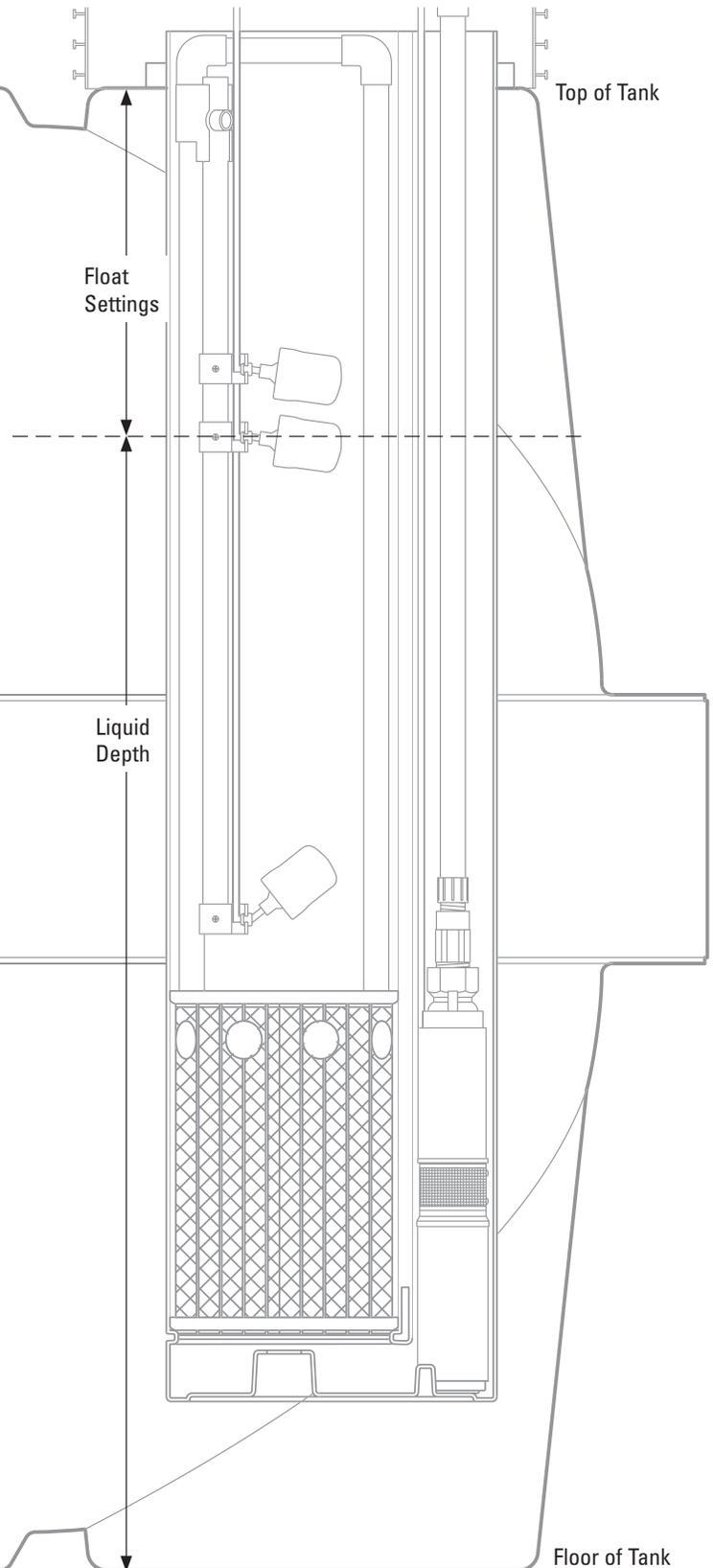
* The invert of inlet is typically set 11 inches down from the top of the tank, or in accordance with prevailing state or local regulations.

** 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



Fiberglass Tanks

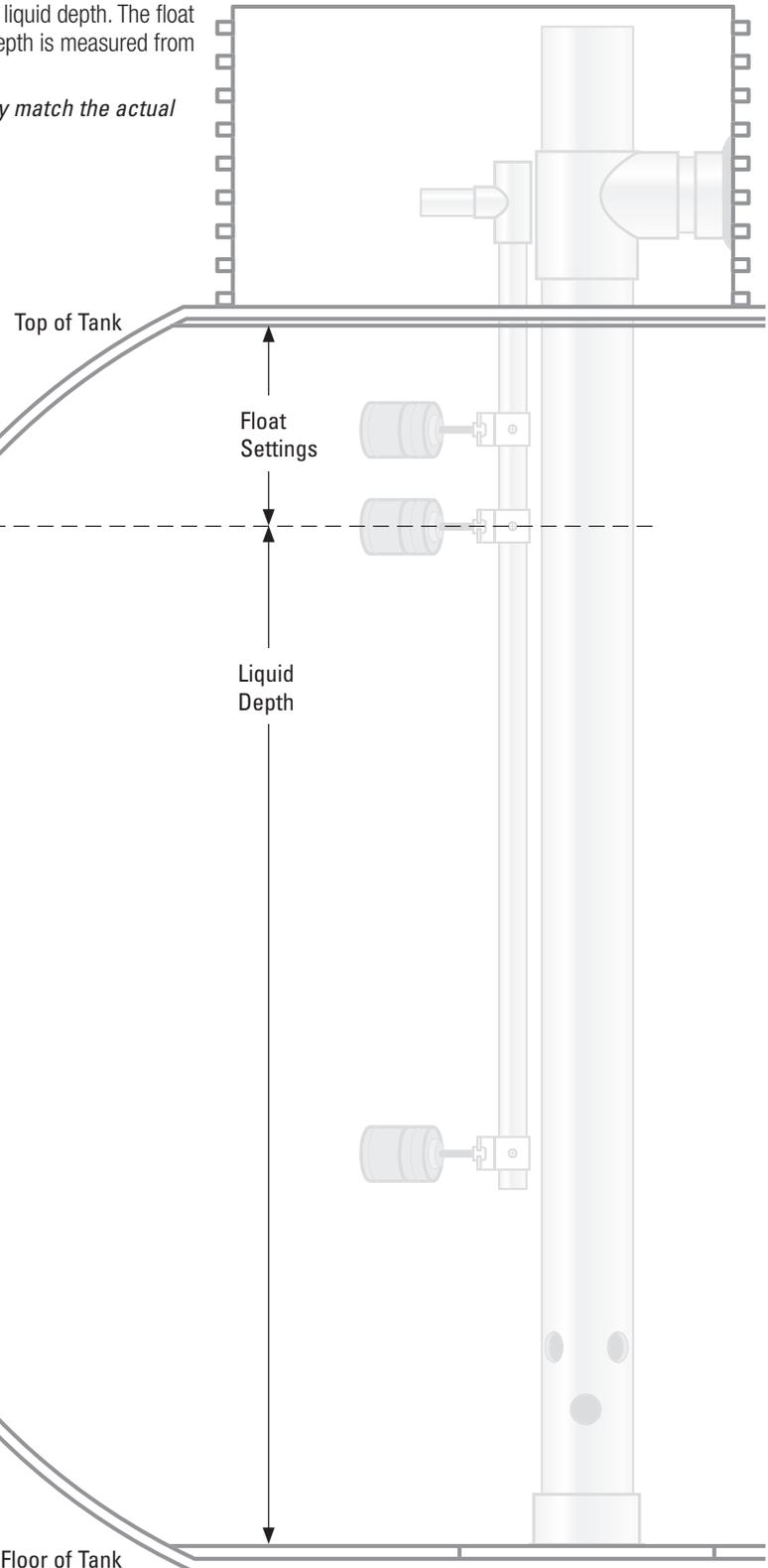
Fiberglass Tank Volume per Unit of Liquid Depth: 500-Gallon Tanks

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



Access Risers and Accessories

Orengo® 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, Orengo 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.

Orengo 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

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.



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

Access Risers and Accessories

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.*



8-inch Smooth Access Riser

Access Risers and Accessories

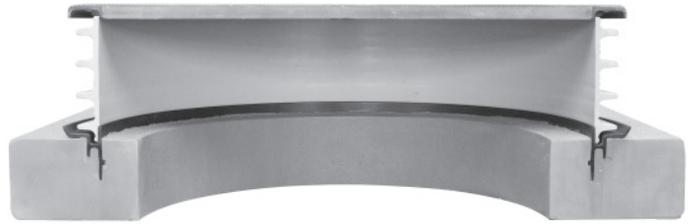
Riser Tank Adapters (FRTA, PRTA, RRFTA)

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

Access Risers and Accessories

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)

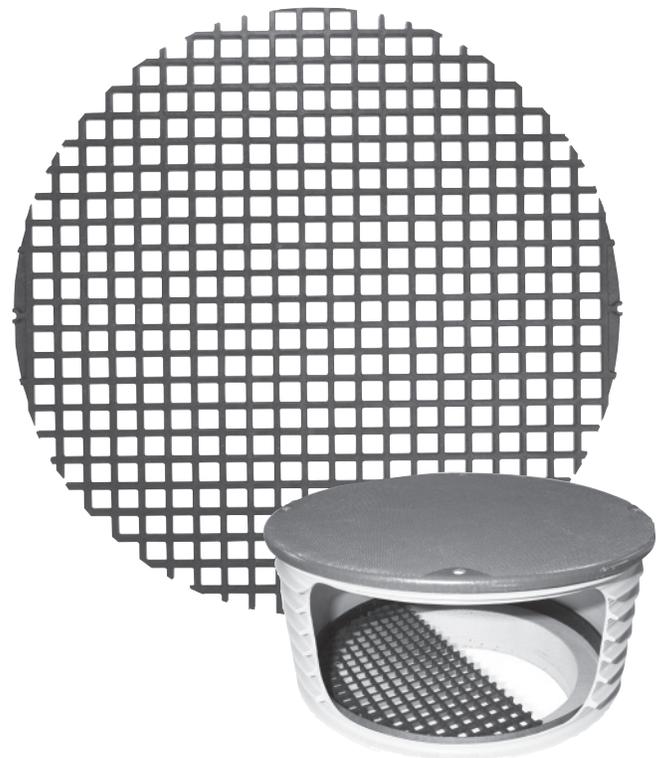
Orenco® Riser Safety Grates rest on the flange at the bottom of an access riser to help prevent people or tools from falling into a tank. They are also used to prevent soil buildup in the bottoms of valve boxes. Orenco Riser Safety Grates are sized to fit Ultra-Rib™, Perma-Loc™, Kor-Flo™, and equivalent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

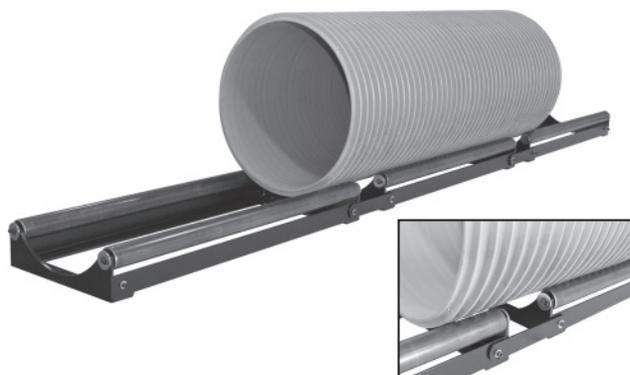


RUSJ Saw Guide

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

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

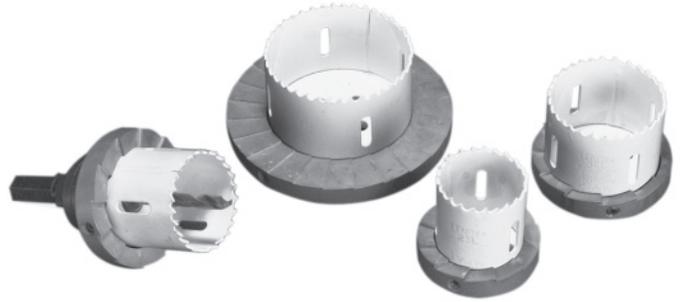
Rib-Cutting Hole Saws (RKHS)

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"> • 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 • Single-part adhesive; 10.2-oz (300-mL) tube uses standard caulking gun
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"> • Clean, dry bonding surface required; roughened surfaces recommended for best bonding • Two-part adhesive; supplied in 7-ounce (200-g packets), no dispensing gun required
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"> • Clean, dry bonding surface required; roughened surfaces recommended for best bonding. For shorter working times or thinner adhesive beads • Two-part adhesive, 1:1 mix ratio
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"> • 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 • Two-part adhesive, 1:1 mix ratio
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"> • 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 • Two-part adhesive; 1:1 mixing ratio
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"> • Self-leveling • Two-part adhesive; 10:1 mixing ratio; requires hand mixing

* 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

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.

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)

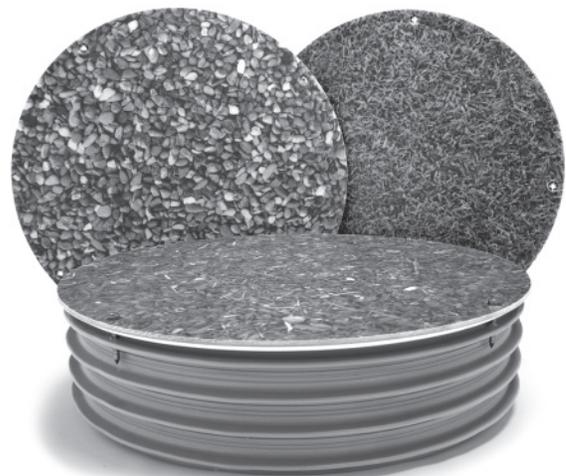
Orenco offers imprinting of custom logos, with customer-supplied images, on quantity orders of 24-inch and 30-inch diameter (600-mm and 750-mm) DuraFiber™ lids.

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

Fiberglass Landscape Lids (FLD)

In addition to standard green and brown access lids, Orenco offers Landscape Lids in grass, bark, and river rock patterns for selected DuraFiber™ fiberglass lids.

- DuraFiber lids available in 24-inch size (600-mm)
- Solid, resin-infused fiberglass construction
- Available with or without lid gasket
- Stainless steel flathead socket cap screws and hex key wrench included



Orenco DuraFiber™ Landscape Lids

* 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

Orenco® 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.

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

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.

Effluent Filters

Biotube® Effluent Filter Inserts (FTI)

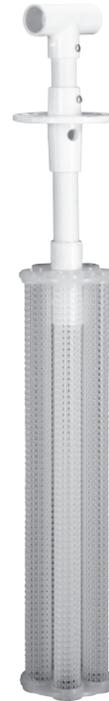
Orenco's Biotube® Filter Inserts remove about two-thirds of suspended solids from effluent, helping extend drainfield life. They are ideal for fast, economical retrofit applications in residential septic tanks. They install in minutes inside of an existing septic tank's Schedule 40 or Type 3034 outlet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

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® 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)



Biotube® FT Series Base Inlet Effluent Filters

Sample Product Codes*

- FT0822-14B — Biotube® FT filter, 8-inch (200-mm) diameter, 14-inch (356-mm) filter height, base inlet
- FT0822-14B-FSO — 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.*

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

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



Biotube® FT Series Commercial Effluent Filters

Ultraviolet Disinfection Units

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.

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 CBOD₅ 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

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.

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 Float Switch

“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

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)

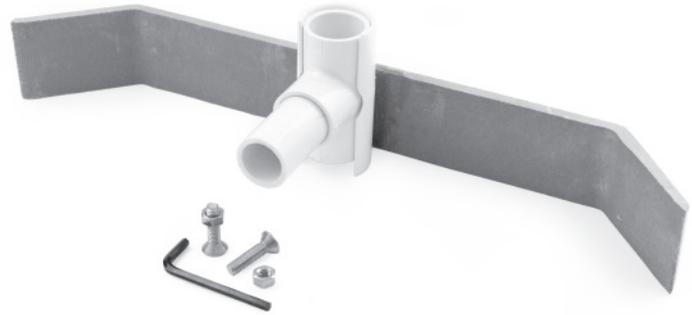
Orenco® Float Brackets are installed on the inside of a PVC access riser for mounting a float stem and float switches. Two models are available.

- 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

Float Switches, Assemblies, and Accessories

Splice Boxes and Accessories

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 water-proof wire nuts provide watertight clamping of float switch cords and positive electrical connections in splices.

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:

Large Connector, 600 V	Small Connector, 600 V
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

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.

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

AMSGBA Single-Gang Alarm Box

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

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.

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

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.

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



CF3 Carbon Filter

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.



CF6 Carbon Filter and CFR Recharge Packages



CFB32 Carbon Filter Bushing

Miscellaneous Onsite Wastewater Products

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

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

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



Orenco Orifice Shields

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

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 = 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 = 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)*

21 = 21-in. (525-mm)

24 = 24-in. (600-mm)

Riser type code:

R = 12-in. (300-mm), 21-in. (525-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

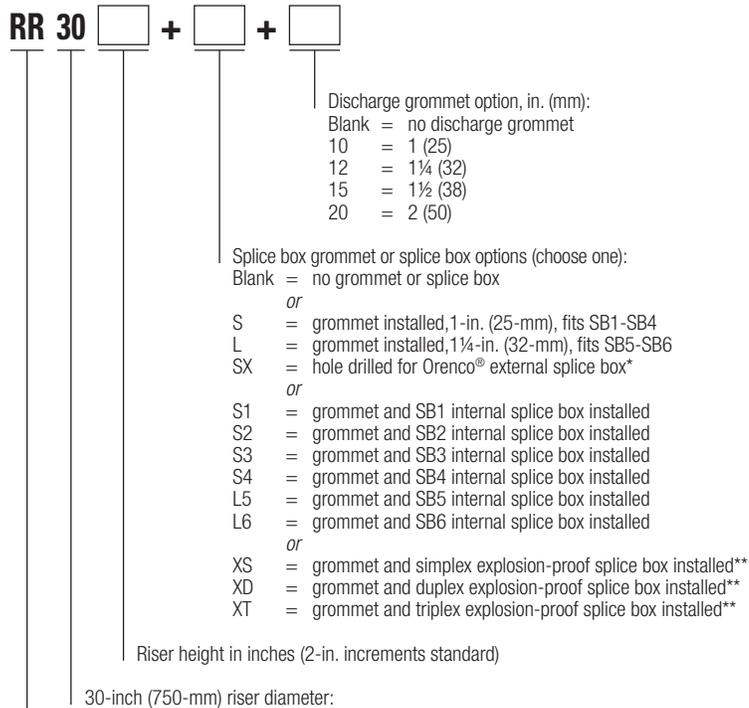
† Requires minimum 18-in. (457-mm) riser height

‡ 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



Ribbed Riser, Kor-Flo®

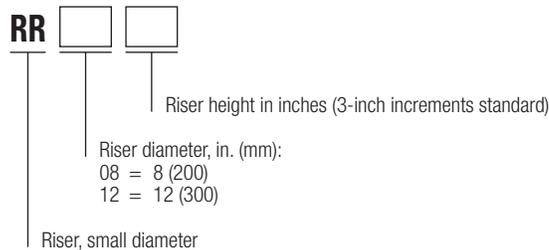
* Requires minimum 18-in. (457-mm) riser height

** For Class I Division I environments

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.

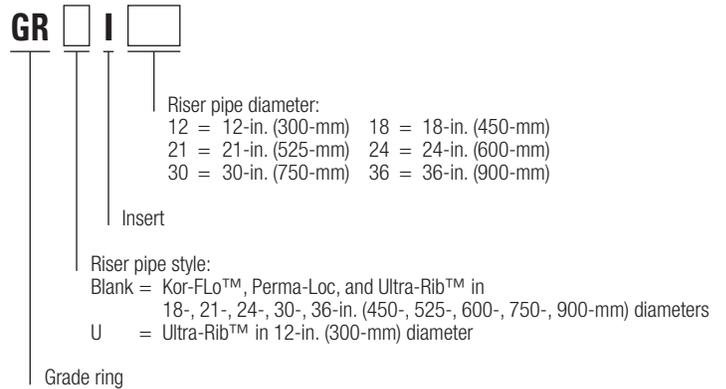
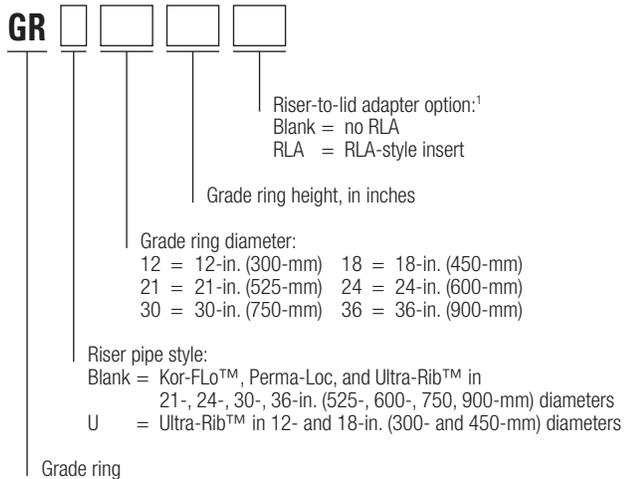
Product Code Diagram



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

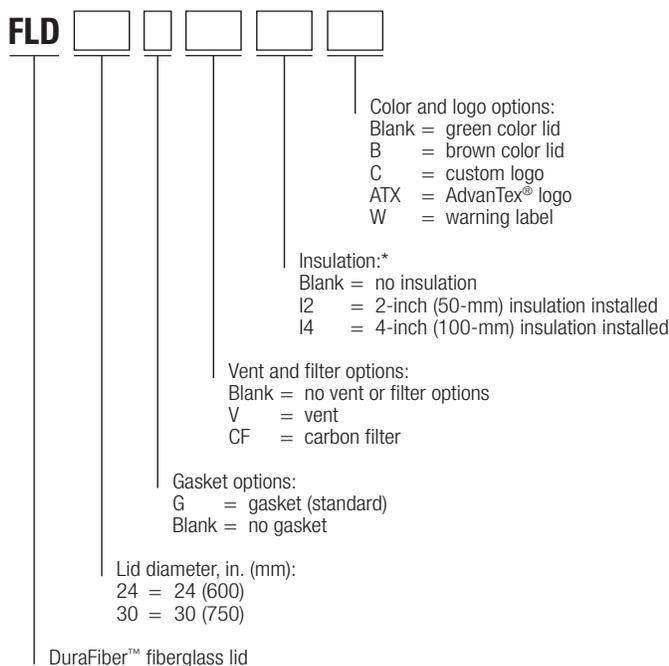


¹ For 24-in. (600-mm) grade rings only

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

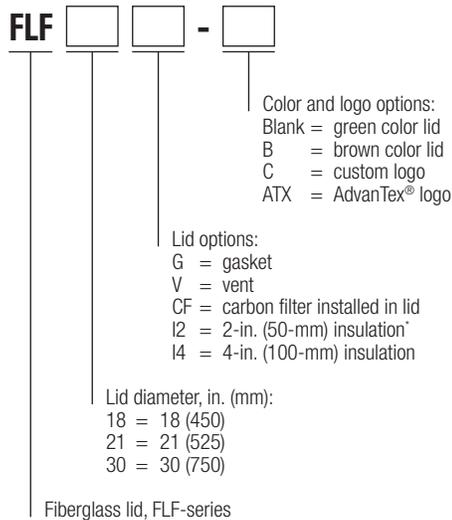


* Insulation has an R-value of 10 per 2-inch (50-mm) increment.

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

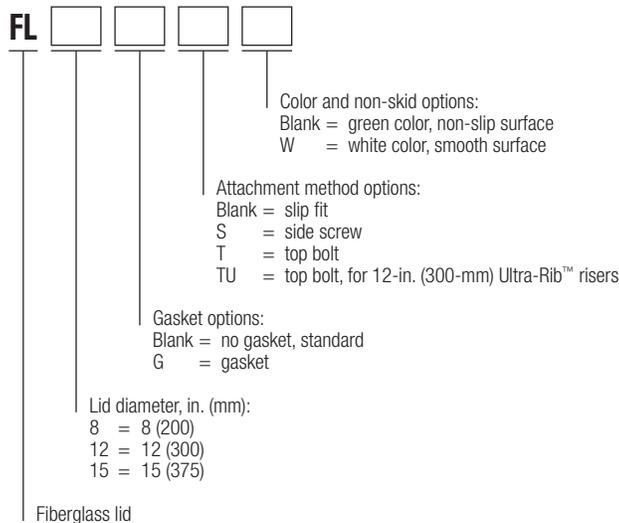


* Lid insulation has an R-value of 10 per 2-inch (50-mm) increment
 Note: For fiberglass basin bottoms without holes, order FLF18 or FLF21

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

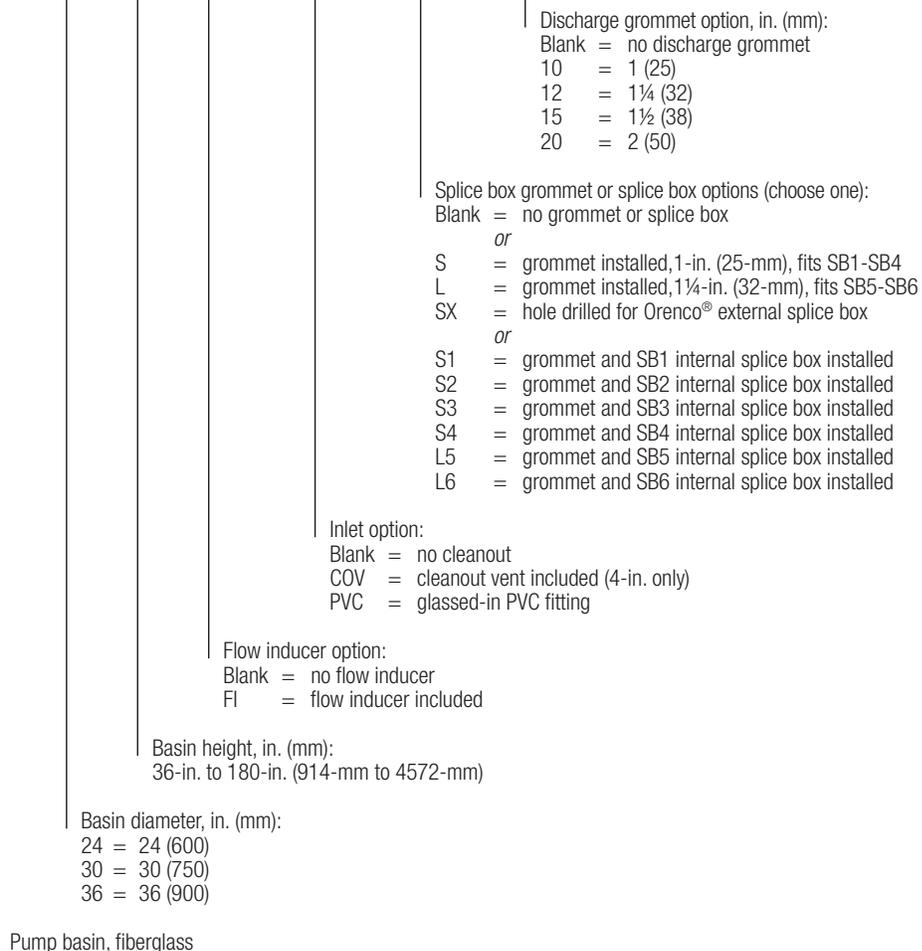


Fiberglass Basins

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

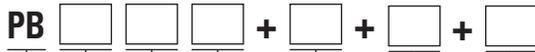
PBF + + +



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

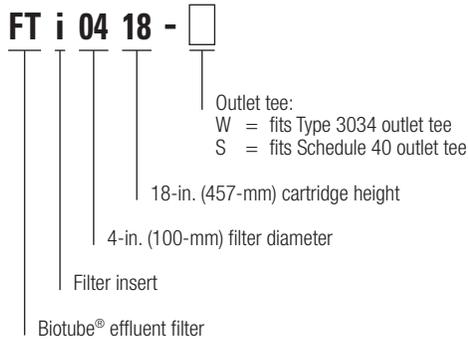
* Requires minimum 18-in. (457-mm) riser height

† 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.

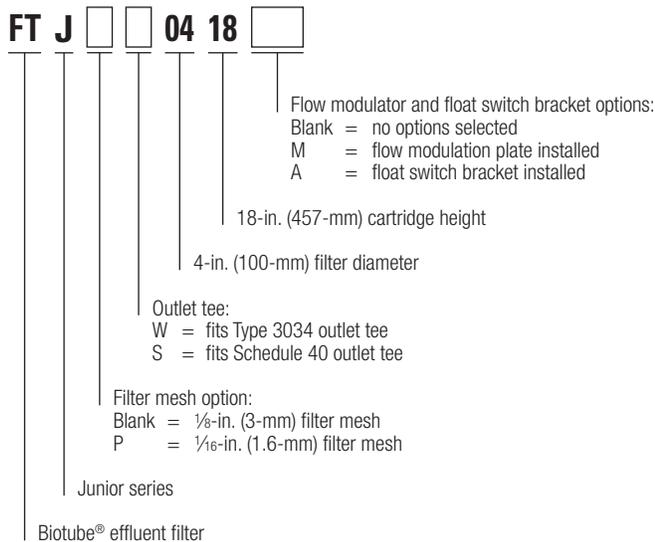
Product Code Diagram



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

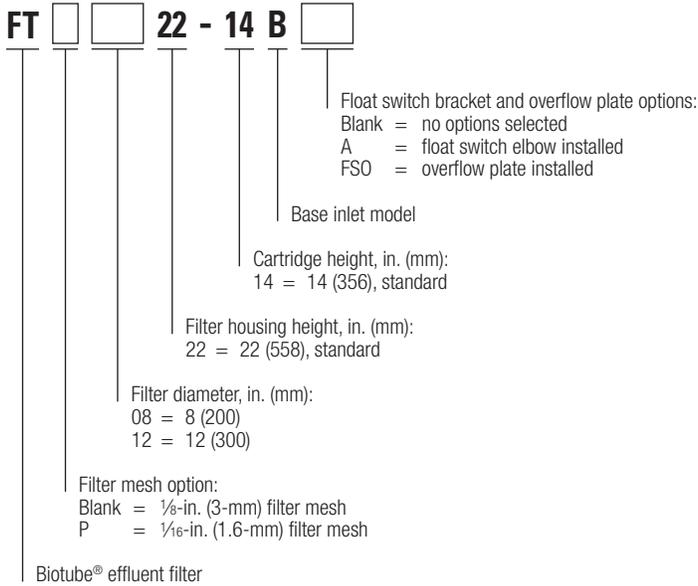
FT 04 - -

- 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-mm)

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

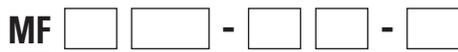
* Minimum liquid level (MLL) information:
 48-in. (1219-mm) housing for MLL of 37-46 in. (940-1168 mm)
 54-in. (1372-mm) housing for MLL of 47-63 in. (1194-1600 mm)
 60-in. (1524-mm) housing for MLL of 64-84 in. (1626-2134 mm)
 66-in. (1676-mm) housing for MLL of 85-112 in. (2159-2845 mm)

† 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



Cord length option:
 Blank = 10 ft (3 m), standard
 20 = 20 ft (6 m)
 30 = 30 ft (9 m)
 50 = 50 ft (15 m)

Application:
 FS = field set
 FTL = elbow-style (base-inlet filters only)
 PB = pump basin
 V = pump vault (standard float settings)
 STEP = Standard float settings for STEP
 STEPRO = Standard float settings for STEP with redundant off
 SVCOM = Standard float settings for VCOM simplex

Float stem length:
 Blank = no float stem (floats and collars only)
 19, 21, 27, 33, 37, 39, 45, 51, 57, 66 = stem length, in.
 5, 11 = stem length, in. (for elbow-style float brackets)

Float switch models (listed in order from the top of the float stem down):
 B, C, G, N, P

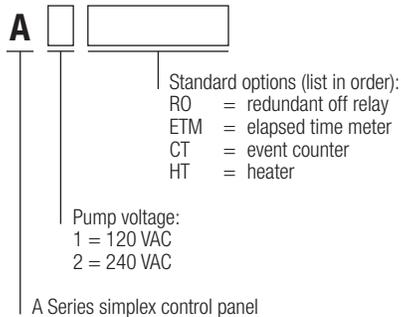
Number of float switches (when using multiples of the same float switch model):
 Blank = no multiples of the same float switch model

Float switch assembly

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



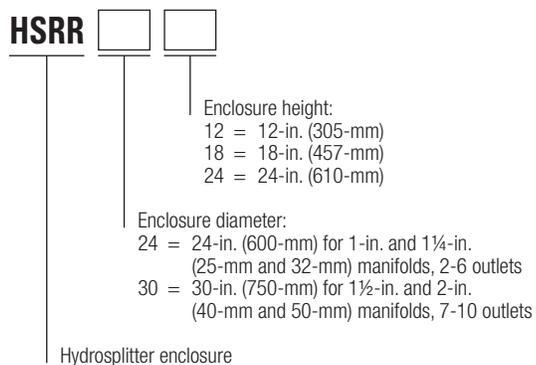
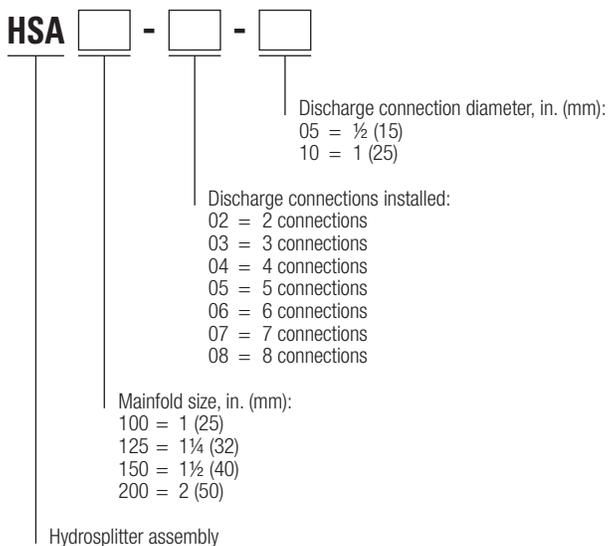
Product Code Options, A Series Simplex Control Panels

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[®], Inc. Terms and Conditions

1. Agreement; Acceptance

This document contains all of the terms and conditions with respect to the sale and purchase of the merchandise ordered by Purchaser and sold by Orenco Systems[®] Inc. ("Orenco"), unless a separate written agreement executed by duly authorized representatives of Purchaser and Orenco explicitly supersedes these Terms and Conditions.

Acceptance of this offer by Purchaser is expressly limited to the exact terms contained herein, and any attempt by Purchaser to alter or omit any such terms shall be deemed a rejection and a counteroffer. Purchaser's acknowledgment, acceptance, or purchase order form that stipulates different conditions shall not effect a modification of these Terms and Conditions. Unless Purchaser notifies Orenco in writing to the contrary prior to its receipt of the merchandise, or a separate written agreement explicitly supersedes these Terms and Conditions, Purchaser's acceptance of the merchandise shall conclusively evidence Purchaser's acceptance of these Terms and Conditions.

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, shall 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. If Purchaser orders a Custom Product, and Orenco is agreeable to manufacturing and/or selling it, Purchaser agrees to defend Orenco at its cost and expense, and shall 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. In addition, Purchaser assumes all responsibility for the compatibility of the Custom Product for its intended use, and for 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 shall 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 manufacture the Custom Product 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 and accepts a written purchase order, unless Orenco notifies Purchaser prior to the expiration of the 30-day period of any reasonable, foreseeable delays.

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

In the event Purchaser requests expedited delivery of merchandise, and Orenco is agreeable to the request, Purchaser shall 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 a purchase order, Orenco will arrange the transportation of the merchandise associated with the order on Purchaser's behalf.

Purchaser shall 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 transports the merchandise itself or arranges transportation of the merchandise with a third-party carrier, Purchaser shall pay Orenco a commercially-reasonable fee for each pallet, crate, container, or other packaging provided by Orenco. In addition, if Purchaser arranges transportation with a third-party carrier, Purchaser will arrange to pay for the service directly.

(b) **Prepaid and Add.** If Purchaser elects to have Orenco arrange transportation of the merchandise on its behalf, Orenco shall pay for the service directly. Purchaser shall pay Orenco for both Shipping and Handling, as itemized on a quotation or invoice, as follows: (i) "Shipping" shall consist of reimbursement of all freight and insurance costs paid by Orenco, including all accessorial charges from the carrier for items such as residential or construction site deliveries 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" shall consist of a fee equal to 5% of the Shipping costs paid by Orenco as identified above, and a commercially-reasonable fee for each pallet, crate, container, or other packaging provided by Orenco.

Large or special merchandise may require cranes or special equipment for unloading after transport. In instances where Orenco arranges for the transportation of this type of merchandise on Purchaser's behalf, Orenco shall immediately notify Purchaser of any delay in the scheduled delivery of the merchandise for shipping, or of any information it receives from a carrier indicating a delay in the scheduled arrival of the transport, and Purchaser agrees to ensure that the equipment necessary to unload the merchandise is present at the carrier's destination, and shall reimburse and indemnify Orenco against any back charges or other fees charged by the carrier for delivery delays caused by failing to have the necessary equipment present at the agreed-upon destination and delivery time.

5. Taxes

Purchaser shall 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 shall indemnify and hold Orenco harmless from those Taxes. Orenco shall 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 shall 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 pay Orenco prior to delivery 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 accept a purchase order and release it for manufacturing. (ii) If Purchaser does not have available credit remaining on its credit 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 accept a purchase order and release it for manufacturing.

(b) **On Account.** If Purchaser has a credit account with Orenco, has available credit on its account, and has not prepaid, Orenco shall invoice Purchaser for amounts owed for delivered merchandise, Taxes, Shipping, Handling, and other associated costs. Purchaser shall pay each invoice in full within 30 days from the date of the invoice ("Net 30"). Past due invoices shall bear a finance charge of 1.5% per month. Daily accrual of the finance charge shall begin on the 31st day from the date of the invoice. If Orenco employs a collection agency to collect any amount not paid by Purchaser under these terms, Purchaser shall pay all of Orenco's reasonable collection expenses. If any suit, action, or proceeding is instituted by Orenco to collect any amount not paid by Purchaser in accordance with these terms, Purchaser shall pay all of Orenco's investigation and litigation costs, including reasonable attorneys' fees, whether incurred before, during, or after trial or appeal.

7. Limited Warranty

Subject to the exclusions, limitations, and conditions contained herein, Orenco warrants that all merchandise will be free from defects in materials and workmanship for a period of 1 year after delivery of such merchandise to Purchaser, except as may be otherwise provided in a separate written warranty instrument between Orenco and Purchaser or from another manufacturer. If a separate written warranty instrument exists, the terms and conditions of said instrument control.

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 merchandise. Labor is not covered under this Limited Warranty.

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

ORENCO SHALL NOT BE LIABLE FOR ANY LOSS, INJURY, OR DAMAGES TO PERSONS OR PROPERTY RESULTING FROM FAILURE OF, OR ANY DEFECT IN, THE MERCHANDISE. NOR SHALL ORENCO BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES OF ANY KIND. IN NO EVENT SHALL THE LIABILITY OF ORENCO UNDER THIS LIMITED WARRANTY EXCEED THE TOTAL 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.

8. Return of Merchandise

Purchaser may not return merchandise without the prior approval of Orenco. Merchandise must be securely packed to reach Orenco without damage. 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.

9. Waiver

The failure of either Party on any occasion to exercise a right granted hereunder shall not operate as a waiver of such right as to subsequent occasions, and shall not effect a modification of these Terms and Conditions.

10. Governing Law

The laws of the state of Oregon shall 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 shall 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 and workmanship 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, 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 and workmanship 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 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

Orenco®

Orenco Systems®, Incorporated
814 Airway Ave., Sutherlin, OR 97479 USA
800-348-9843 • 541-459-4449
www.orenco.com/product_catalogs

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