Orenco SYSTEMS

Technical Data Sheet

Universal Biotube® Pump Vaults

For use with Orenco® 4-inch (100-mm) Submersible Effluent Pumps

Applications

Orenco Biotube® Pump Vaults are used to filter effluent that is pumped from septic tanks or separate dosing tanks in STEP systems and onsite wastewater treatment systems. They remove two-thirds of suspended solids, on average. Pump vaults house a Biotube effluent filter and one or two Orenco high-head effluent pumps and can be used in single-compartment septic tanks with flows up to 40 gpm (2.5 L/sec). When flows are greater than 40 gpm (2.5 L/sec), a double-compartment septic tank or separate dosing tank is recommended.

Side view

General

The Orenco Biotube Pump Vault includes a molded polyethylene housing with an internal Biotube filter cartridge constructed of polypropylene and PVC. Schedule 80 PVC support pipes are included to suspend the vault in a tank opening. "Earless" 68-inch (1727-mm) vaults, which rest on the bottom of the tank instead of on support pipes, are also available. The filter cartridge can be removed without pulling the pump or the vault. Effluent enters through inlet holes around the perimeter of the Biotube vault and flows through the Biotubes to the external flow inducer. The external flow inducer accommodates one or two pumps. Orenco Biotube Pump Vaults are covered by U.S. patents #4,439,323 and 5,492,635.

Standard Models

PVU48-1818, PVU57-1819, PVU68-2419, PVU84-2419, PVU95-3625

Product Code Diagram

PVU [ ] [48] - [18] [18] - [ ]

Support pipe length:
Blank = standard, for 24" (600 mm) riser
L = long, for 30" (750 mm) riser
NB = no support pipe bracket (earless)

Inlet hole height, standard:
13" (330 mm)
18" (457 mm)
19" (482 mm)
25" (635 mm)

Cartridge height, standard:
18" (457 mm)
24" (610 mm)
36" (914 mm)

Vault height:*
48" (1219 mm)
57" (1448 mm)
68" (1727 mm)
72" (1829 mm)
84" (2134 mm)
95" (2413 mm)
or custom specification

Biotube® filter mesh:
Blank = 1/8" (3.2 mm) mesh
P = 1/16" (1.6 mm) mesh

Universal Pump Vault

* Custom heights from 42" to 135" available

Tank Access and Riser Diameters

Diameter, in. (mm)	PVU with simplex pump	PVU with duplex pumps
Tank access, minimum	19 (483)	19 (483)
Tank access, recommended	20 (508)	20 (508)
Riser, minimum	24 (600)	30 (750)

Materials of Construction

Support pipe	Schedule 80 PVC
Biotube® vault	Polyethylene
Biotube filter cartridge	Polypropylene/PVC
Float stem	Schedule 40 PVC
Drain valve ball	Polypropylene

Side view cutaway

Top view

Dimensions

A, in. (mm)	3 (76)
B, in. (mm)	4 (102)
C, in. (mm)	17.3 (439)
D, in. (mm)	16.6 (422)
E, in. (mm)	12 (305)

Specifications

Model	PVU48-1818	PVU57-1819	PVU68-2419	PVU84-2419	PVU95-3625
F, vault height, in. (mm)	48 (1219)	57 (1448)	68 (1727)	84 (1727)	95 (2413)
G, lowest float setting point, in. (mm)	21 (533)	29 (737)	35 (889)	51 (1295)	50 (1270)
H, inlet hole height, in. (mm)*	18 (457)	19 (483)	19 in. (483)	19 (482)	25 (635)
J, Biotube® cartridge height, in. (mm)	18 (457)	18 (457)	24 (610)	24 (610)	36 (914)
Biotube mesh opening, in. (mm)	0.125 (3)	0.125 (3)	0.125 (3)	0.125 (3)	0.125 (3)
Filter flow area, ft^2 (m^2)	4.4 (0.4)	4.4 (0.4)	5.9 (0.5)	5.9 (0.5)	9.0 (0.84)
Filter surface area, ft^2 (m^2)	14.5 (1.35)	14.5 (1.35)	19.7 (1.83)	19.7 (1.83)	30 (2.79)
Maximum flow rate, gpm (L/sec)	140 (8.8)	140 (8.8)	140 (8.8)	140 (8.8)	140 (8.8)

** May vary depending on the configuration of the tank.*

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