Biotube® Universal Pump Vaults

Applications

Orenco's Biotube Universal Pump Vaults are designed to filter as much as two thirds of suspended solids from effluent before it is pumped from tanks in liquid-only sewer systems and on-site wastewater treatment systems. They are intended for single-compartment septic tanks with flows as high as 40gpm (2.5L/sec) or double-compartment septic tanks and separate dosing tanks with flows higher than 40gpm (2.5L/sec).

1. **Support pipes**
2. **Support pipe bracket**
3. **Flow inducer**
4. **Inlet holes**
5. **Biotube filter cartridge (inside vault, not shown)**
6. **Drain valve ball (inside vault, not shown)**

Universal pump vault, side view

General

Orenco's Biotube Universal Pump Vaults feature a molded housing, a Biotube filter cartridge, and an integrated flow inducer for one or two Orenco 4in (100mm) submersible effluent pumps. The filter cartridge is removeable for cleaning or inspection without pulling the pump or vault.

Options include support pipes to suspend vaults in a tank opening or "earless" 68in (1727mm) vaults that rest on the bottom of the tank. Custom vault heights from 42in (1067mm) to 188in (4775mm) are also available. Vaults require support from the bottom if they are over 95in (2413mm) in height and house duplex pumps.

Standard Models

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

Product Code Diagram

PVU ☐ ☐☐ - ☐☐ ☐☐ - ☐☐

Support pipe and bracket option:
Blank = sized for 24in (600mm) riser opening
L = sized for 30in (750mm) riser opening
NB = "earless," no support bracket

Inlet hole height, standard, in (mm):
13 = 13 (330) 19 = 19 (483)
18 = 18 (457) 25 = 25 (635)

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

Vault height, in (mm):*
48 = 48 (1219) 72 = 72 (1829)
57 = 57 (1448) 84 = 84 (2134)
68 = 68 (1727) 95 = 95 (2413)

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

Orenco® Biotube® Universal Pump Vault

*Custom heights from 42in to 188in (1067mm to 4775mm) available

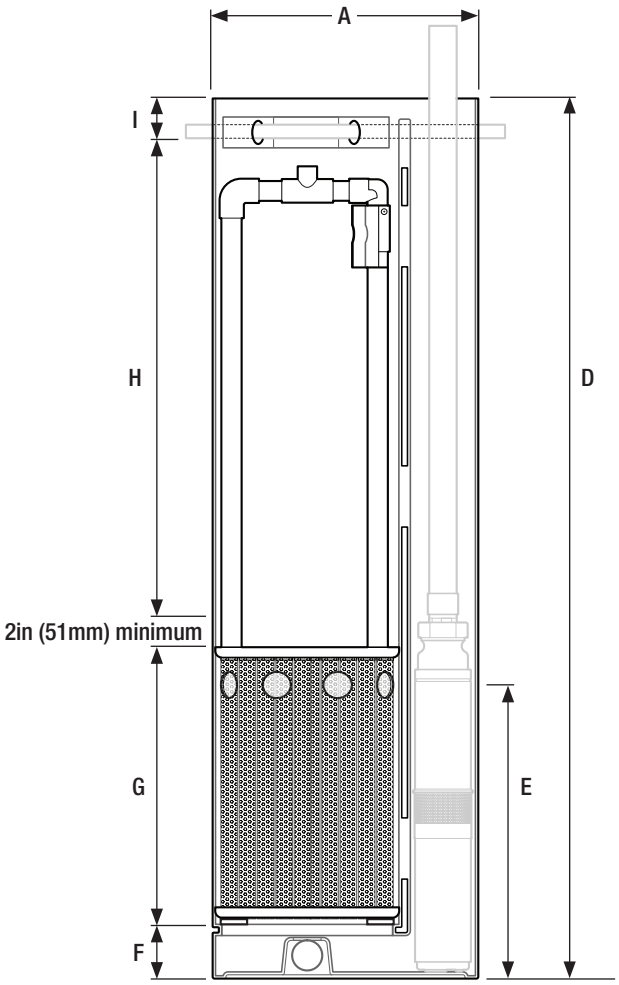
Not all product code configurations may be available as standard products.

Tank Access and Riser Diameters, in (mm)

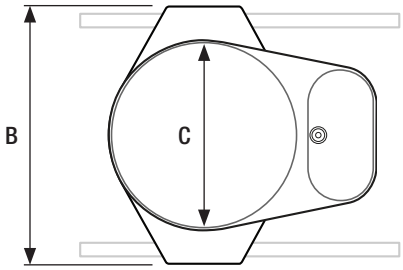
	PVU + simplex pump	PVU + duplex pump
Tank access, minimum	19 (483)	19 (483)
Tank access, recommended	20 (508)	20 (508)
Riser, nominal, minimum	24 (600)	30 (750)

Materials of Construction

Biotube filter cartridge	Polypropylene and PVC
Drain valve ball	Polypropylene
Float switch stem	Schedule 40 PVC
Pump vault	Polyethylene
Support pipes	Schedule 80 PVC



Side cutaway view



Top view

Specifications

		PVU48-1818	PVU57-1819	PVU68-2419	PVU84-2419	PVU95-3625
A	Vault, front to back, in (mm)	17.3 (439)	17.3 (439)	17.3 (439)	17.3 (439)	17.3 (439)
B	Vault side to side, in (mm)	16.6 (422)	16.6 (422)	16.6 (422)	16.6 (422)	16.6 (422)
C	Vault opening diameter, in (mm)	12 (305)	12 (305)	12 (305)	12 (305)	12 (305)
D	Vault height, in (mm)	48 (1219)	57 (1448)	68 (1727)	84 (2134)	95 (2413)
E	Inlet hole height, in (mm)*	18 (457)	19 (483)	19 (483)	19 (483)	25 (635)
F	Vault base to filter cartridge, in (mm)	4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
G	Biotube cartridge height, in (mm)	18 (457)	18 (457)	24 (610)	24 (610)	36 (914)
H	Lowest float setting point, in (mm)	21 (533)	29 (737)	35 (889)	51 (1295)	50 (1270)
I	Vault rim to support pipes, in (mm)	3 (76)	3 (76)	3 (76)	3 (76)	3 (76)
	Biotube mesh opening, in (mm)	0.125 (3.2)	0.125 (3.2)	0.125 (3.2)	0.125 (3.2)	0.125 (3.2)
	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)

** Height may vary depending on the configuration of the tank.*