

StormVault Coalescing Plate Separator (SVCPS) - Sizing Table

OIL/WATER SEPARATOR (LIQUID/LIQUID SEPARATION)

Stormwater Application: Discharges to Storm Drain

Oil and Grease Target Effluent Concentration: 15-mg/L

| SVCPS Model # | Treatment Flow | | Vault Size (Internal Dimension) | | | Clear Distance Between the Plates | | Lamella Plate Dimension | | | Lamella Plate Volume (ft ³) | Recommended minimum pipe Size (in) | Flow Velocity (ft/s) |
|------------------|----------------|----------------------|------------------------------------|----------------|----------------|---|------|-------------------------|-------------------------------|---------------------------|--|---|----------------------------|
| | (gpm) | (ft ³ /s) | Width (ft) | Length (ft) | Height (ft) | (in) | (mm) | No. Of Stacks | No. of Plates per Stack | Total No. of plates | | | |
| | | | | | | | | | | | (ft ³) | (in) | (ft/s) |
| SVCPS-3/8-20 | 20 | 0.045 | 4.5 | 8.5 | 6.0 | 3/8 | 9.5 | 2 | 37 | 74 | 2.4 | 6 | 0.23 |
| SVCPS-3/8-50 | 50 | 0.111 | 6.0 | 12.0 | 6.0 | 3/8 | 9.5 | 3 | 61 | 183 | 5.9 | 6 | 0.57 |
| SVCPS-3/8-75 | 75 | 0.17 | 6.0 | 12.0 | 6.0 | 3/8 | 9.5 | 3 | 90 | 270 | 8.7 | 6 | 0.85 |
| SVCPS-3/8-100 | 100 | 0.22 | 6.0 | 12.0 | 7.0 | 3/8 | 9.5 | 3 | 120 | 360 | 11.7 | 6 | 1.13 |
| SVCPS-3/8-150 | 150 | 0.33 | 8.0 | 16.0 | 7.0 | 3/8 | 9.5 | 5 | 108 | 540 | 17.5 | 6 | 1.70 |
| SVCPS-3/8-165 | 165 | 0.37 | 8.0 | 16.0 | 8.0 | 3/8 | 9.5 | 5 | 120 | 600 | 19.4 | 8 | 1.05 |
| SVCPS-3/8-200 | 200 | 0.45 | 8.0 | 16.0 | 8.0 | 3/8 | 9.5 | 5 | 143 | 715 | 23.2 | 8 | 1.28 |
| SVCPS-3/8-250 | 250 | 0.56 | 10.0 | 20.0 | 7.0 | 3/8 | 9.5 | 7 | 128 | 896 | 29.0 | 8 | 1.60 |
| SVCPS-3/8-310 | 310 | 0.69 | 10.0 | 20.0 | 8.0 | 3/8 | 9.5 | 7 | 159 | 1,113 | 36.0 | 9 | 1.56 |
| SVCPS-3/8-370 | 370 | 0.82 | 12.0 | 24.0 | 8.0 | 3/8 | 9.5 | 9 | 147 | 1,323 | 42.8 | 10 | 1.51 |

Note: For different input parameters use [StormVault Coalescing Plate Separator \(SVCPS\) Sizing Spreadsheet](#).
The total Coalescing Plate Volume is provided by Stacks of Lamella aluminum plates arranged side by side perpendicular to the flow.

Assumptions:

| | |
|---------------------------------------|---|
| Influent Concentration | 200-mg/L |
| Operating Temperature | 60°F |
| Specific Gravity of Oil | 0.85 |
| Mean Oil Droplet Size in Microns | 130-μm |
| Oil Droplet Distribution | Log-Normal Distribution with Standard Deviation 2.0 |
| Turbulence and Short Circuting Factor | 1.2 |