

SEPARATORS THAT WORK!

TEST SHOW:

To Get 15PPM You Must Remove Essentially All Of The Particles 60 Microns And Larger.

How Much Retention Time Does This Take?

You Need To Raise An Oil Particle At Least 1 Foot So It Does Not Get Sucked Out The Discharge Pipe!

SO:

Stokes' Law States: $V_r = g(P_w - P_o) \times (D \times D) / 18u$

Where: V_r = Rate of Rise of a Particle
 g = Acceleration caused by Gravity (981 cm/sec)
 P_w = Specific Gravity of Water
 P_o = Specific Gravity of Oil
 D = Diameter of Oil Particle
 u = Viscosity of Water at 40 degrees F.

Assume: .90 for Specific Gravity of Oil and 1.0 for Water.
(60 Micron Particle of Oil is .006 cm)

Then: $V_r = 981 \times (1 - .90) \times (.006 \times .006) / (18 \times .0153) = .013 \text{ cm/sec}$
 $.013 / 2.54 = .005 \text{ in/sec} \times 60 \text{ sec} / 12 \text{ in} = .0256 \text{ feet/min}$

Amount of Time to Raise a 60 Micron Particle 1 foot is: $1 / .0256 = \underline{39 \text{ minutes}^*}$

*This is without plates

A considerable portion of separation and coalescence occurs on the corrugated entrance plate of the AquaClean™ separator. Also, the parallel plate pack causes the particles to rise 4+ times faster.

If you double the diameter of an oil particle, it will rise 4x times faster!

What Does This Mean?

If your plates are not at the furthest point towards the inlet, you cannot get 10 minute throughputs!