



SEAOD DECANTER (SOLIDS EXCLUDING AIR OPERATED FLOATING DECANTER) FOR SOLID / LIQUID SEPARATION

Introduction:

The Air Operated Floating Decanter combines the benefits of floating and mechanically driven decanters. The decanter floats on the surface of the liquid by the inclusion of compartments or floats. Air is used to lift the decanter out of the mixed liquor during the react stages. The air is exhausted at the onset of the decant stage, thus allowing liquid into one of the floats causing the decanter to sink into the liquid. There are no moving mechanical parts in the decanter.

Principle of Operation:

There are 2 No. compartments which act as floats in the floating decanter assembly:-

Sealed compartment –

Located at the “back end” of the assembly, this is sealed and always floats.

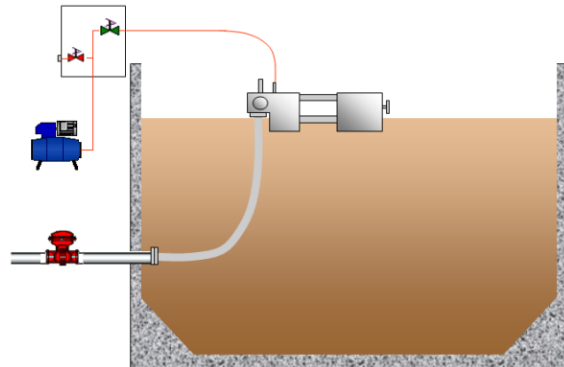
Open compartment –

Located at the “front end” i.e. the decanting end. Air is filled and exhausted from this compartment to allow the decanter sink into / rise out of the liquid.

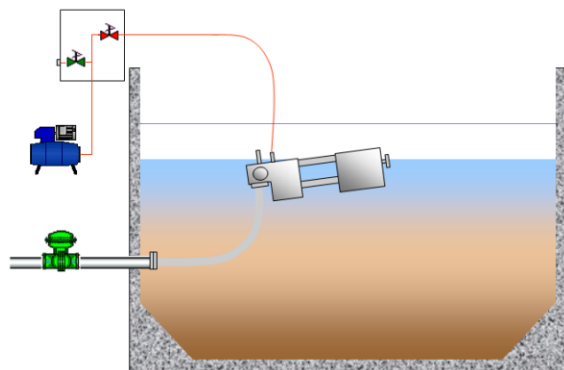
Pressurised air is delivered to the Open Compartment, which pushes out the water through holes in the bottom of the compartment. This lifts the decanter pipe out of the liquid. The sealed compartment remains buoyant at all times. In order to sink the decanter back into the liquid (start of decanting), air is released which allows liquid into the open compartment. The decanter is designed to ensure that a pocket of air is always retained in the open compartment, thus ensuring that the front end does not sink completely into the liquid.

A pneumatic panel is provided for each decanter. There are two solenoid valves located in the pneumatic panel. One solenoid valve supplies air to the Open compartment and the other exhausts air. The “Supply Valve” allows the decanter pipe to rise out of the liquid and the “Exhaust Valve” allows the decanter pipe to sink into the liquid.

Non Decanting Position



Decanting Position



System Design:

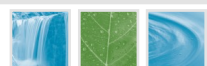
Standard Models:

SEAOD-100	up to 50 m ³ /hr
SEAOD-150	50 to 100 m ³ /hr
SEAOD-200	100 to 200 m ³ /hr

The decanters can be purpose designed for any type or size of application involving solid / liquid separation. The design parameters include:

- Application
- Tank (existing / new)
- Flow rates

The advantage of the “SEAOD Decanter” is that it allows a constant discharge flow, it excludes floating solids from the discharge because the liquid is decanted from below the water surface, there is no moving mechanical parts thereby eliminating the need for maintenance on the decanter itself.



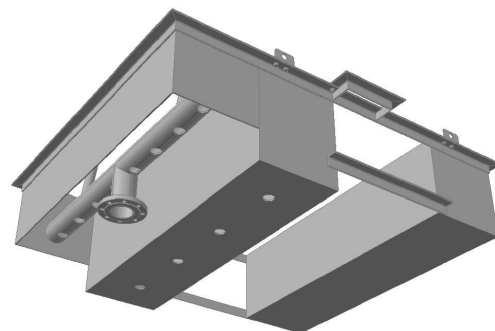
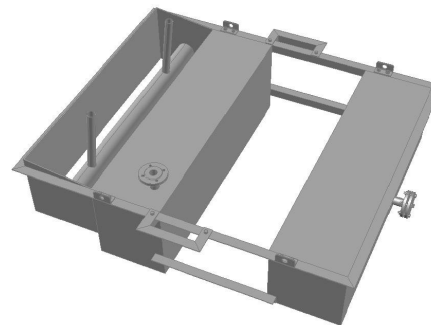
Equipment Description:

A typical "SEAOD Decanter" System is supplied with the following:

- Aluminium Grade 5083 (or other suitable material) float system with integral pipe decanter.
- Flexible outlet hose in polyurethane c/w aluminium (or other suitable material) flanged hose tail (at decanter) and flanged hose tail (at tank wall).
- 1 No. set of air control valves fitted in a weatherproof enclosure.
- 1 No. set of air lines and connectors.
- 1 No. set of SS chains or marine quality mooring lines.

The following table is based on a SEAOD-100:

SEAOD Decanter:	1800 x 1600 x 600 mm
Weight:	150 kg
Support Platform:	1420 x 1500 x 1000 mm
Weight:	25 kg
Guide Rail:	1.5" Alum Tube
Dimensions (L):	Site specific
Discharge Hose:	Polyurethane, medium-heavy model
Specification:	Spring steel wire firmly embedded in wall, kink free
Wall Thickness:	4 mm
Mooring Rope:	Black Braid on Braid polyester rope
Size:	8 mm
Breaking Load:	2000 kg
Support Chain:	
Type:	Stainless Steel Medium Duty
Fixings:	Heavy Duty anchors & Lifting eye nuts SS
Anchor Type:	E10-15/45 Spit Triga SS A4 M 10 thread
Lifting Eye:	M 10 Din 582 SS A2
Pneumatic Panel:	Manufactured Control Panel with or without integral PLC
Dimensions (H x W x D):	400 x 300 x 170 mm
Air Supply:	10 mm ID Black Nylon Tube
Filter Regulator:	G 3/8" 0.5 – 8.0 bar, Auto Drain
Solenoid Valves:	Direct Acting 24 V DC
Outlet Connections:	3/8" Female BSP
Recoil Hose:	Compact Nylon Recoil Hose
Material:	Red, U.V. Stabilised, 9 mm
Connections:	3/8" Male BSPT



If more information about Solids Excluding Air Operated floating Decanter (SEAOD Decanter) for use in liquid / solids separation is required please contact Treatment Systems Ltd. on sales@treatmentsystems.ie.

About Treatment Systems Ltd.

Treatment Systems Ltd. (TSL) was established in 1990 as a specialist process engineering design and installation company, with procurement, operations and maintenance capability in water and waste water treatment for both municipal and industrial applications on an international basis

TSL has worked primarily in Ireland within the Municipal and industrial Water /Wastewater market place. During the past 20 years, TSL has also been involved in numerous water / sewage project's in England, Scotland, Wales and internationally.

