

# OIL SKIMMERS

## Surface Oil Removal from Water and Other Liquids

In any application where it is necessary to remove tramp oil or 'free-oil' from the surface of the mother liquor, a surface skimming device should be used. Stetfield Separators skimmers are designed to facilitate the removal of these oils and are available in a range of designs and sizes to suit particular applications and flow rates. The skimmers are normally designed to be either pivoting or free floating in order to automatically cope with fluid level changes within the tank.

### SELECTION CRITERIA

A number of considerations need to be understood before selecting the right skimmer for an application. These include:

- Oil layer depth
- Size of sump
- Depth of sump
- Height range across which the skimmer is required to operate.
- Accessibility
- Flow rate required
- Nature of the application
- Skimming (surface) area
- Turbulence
- Recycle or once-through system
- Temperature
- Materials compatibility



70m<sup>3</sup>/h Pivot type skimmer



Pivot float skimmer often used on our Multipack Tramp-Oil Separators

### APPLICATIONS

- Industrial Washing Machine tanks
- Surface water run-off sumps
- Drainage pits
- Tramp-oil from machine tool coolants
- Wash liquors in plating plants
- In-Ground Interceptors
- Bulk storage tanks
- Liquid waste treatment sites
- Steel Mills
- Press plants

## OPERATION & INSTALLATION

All skimmers are located in the sump/tank and require a take-off point. This can be a socket/port in the side of the tank or via a dip-pipe that terminates above the top of the tank.

It is possible to rely on gravity for the feed but only in quiescent zones of constant level. In the vast majority of applications the take-off point is connected to a low-shear pump for forward flow to the separator or oil storage tank.

The normal method, on low-flow skimmers, is to have a threaded port flanged port in the side of the tank (usually near the bottom) or via the dip-pipe option.

For larger pivot floats they are usually bolted to the wall of the tank and have a horizontal flanged or threaded take-off port on the side of the tank or a vertical suction pipe terminating at the top, or above the top liquid level, of the tank.

For larger pivot type floats it is important to be able to access the floats for setting up or adjusting. Once a float has been set up to operate across its' full range it should require little further attention but it should be remembered that whilst a sump/tank is empty, access is much simpler than when full of oily water.

We recommend fitting an isolating valve on the skimmer outlet port in the tank so it can be isolated for maintenance.



**Barrel Float**

### 3-Ball Skimmer Float



## MATERIALS OF CONSTRUCTION

Our skimmers are generally made from Stainless steel or plastic to give a long and trouble free life. Where flexible hoses are used, the hose material is selected to suit the application. Higher temperature hose material is also available.



**Pivot float being installed in In-Ground Interceptor**

## TYPES OF SKIMMER

### ■ Pivot Floats

Available in various sizes and suitable for low flow to very high flow rates. Float arm length is made to suit sump size and level change required. Made in stainless steel with plastic bearings making a long-lasting and virtually maintenance free unit.

### ■ 4-Ball Floats

For lower flow rate applications up to around 5m<sup>3</sup>/h. Available in a range of sizes from 25NB to 80NB. Free floating enabling large depth changes within a sump. Made in stainless steel and/or plastic with variable length of flexible hose.

### ■ Barrel Floats

Usually in PVC for low flow rates up to about 2m<sup>3</sup>/h for use in small sumps with space restrictions.

### ■ Special Pivot Floats

For use in very shallow sumps, these pivot type units sit on a pad in the bottom of the sump.

### ■ Disc Skimmers

These units comprise a rotating disc coupled to a small motor. The disc is partially immersed in the oil layer and as the disc rotates it slowly skims off the oil and deposits into a chute and thence to a storage vessel. Effective in small sumps with low oil contamination.



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