Technical Bulletin

Master Fluid SOLUTIONS®

Tramp Oil Removal Device - Oil Skimmer

The oil skimmer is probably the most frequently seen type of tramp oil removal device and is often encountered as small units mounted on the sump of individual machines. They offer a cost effective method of removing free floating oil. These skimmers come in many different sizes and shapes to deal with the many different situations where unwanted free floating oil is encountered. The one that you select will depend a great deal on the “geography” of your sump, the amount of free floating oil to be removed, the amount of “quiescent” time available, and your budget. Over the years Master Fluid Solutions has found that the belttype skimmers offer the most utility in stand-alone machine tools because of their small size and ability to handle changes in fluid level.

All of these oil skimming devices function the same basic way. They have an oleophilic (oil attracting) material that is brought into contact with the free floating tramp oil and then the oil is stripped off of the media and carried out of the system for disposal. The differences between the units are of size, shape, and material used to attract the oil and how the oil is removed from the skimmer surface.



SCROUNGER® JR.

Since the beginning of the modern metalworking fluid age, tramp oil has been an ongoing problem for both the manufacturers and the users of the products. So as a manufacturer of metalworking fluids, we would like to offer the following observations about getting the maximum benefit out of our oil skimmer technology.

1. Oil skimmers can only pick up oil that comes in contact with the oleophilic media, so insure that the media passes through the area in the sump where the tramp oil concentrates.
2. If there is any turbulence in the tank, the skimmer efficiency will be greatly reduced. Run the skimmer when the tank is quiescent when at all possible.
3. The skimming media prefers to be wetted with oil. If there is no oil on the surface, it will pick up water which will increase disposal costs and volumes.
4. To maximize skimmer performance, it is good practice to allow the system to sit idle for several hours so that the partially emulsified tramp oil can rise to the surface. Once the tramp oil has had time to collect, then turn the oil skimmer on (using a timer) only long enough to remove the free floating oil and then turn it off again.
5. Oil being drawn to the media will draw other free floating oil with it; surface turbulence will tend to break up this process. Some of the tramp oil will be drawn to the oil containing residue. Since oil is attracted to itself first and to the oleophilic media second, watch out for oil build-up on the sides of the tank wall.
6. Periodically the media and scrapers need to be cleaned to remove residue and anti-foam that may accumulate. Take care in selecting the solvent used in the cleaning as it can spoil the oil attracting characteristics of the media.
7. Regularly empty the tramp oil collection container as it will rapidly develop the “rotten egg” odor or Monday morning stink associated with poorly maintained sumps.

Oil skimmers are an efficient and cost effective method of removing free floating oil from the surface of a metalworking fluid, but can not address the oil that will not come to the surface. For that other technology is needed.

©2025-2026 Master Fluid Solutions | Master Fluid Solutions® is a registered trademark of Master Chemical Corporation d/b/a Master Fluid Solutions.