

# Constant Level Oilers

## Seven Mistakes to Avoid When Installing, Applying and Refilling

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Figure 1. Side-mounted Connection



Figure 2. Bottom-mounted Connection

**C**onstant level oilers are designed to maintain a predetermined oil level in a sump, which is necessary for proper lubrication. If the oil level drops below this point, the depleted oil is automatically replenished by the lubricator, returning it to its original level. Constant level oilers can also help increase maintenance efficiencies and decrease maintenance costs and loss of production time. Even though constant level oilers are simplistic and easy to install, problems can still arise. Care should be taken when installing, applying and refilling these units.

### Installation and Application

Prior to installing a constant level oiler, shaft rotation direction must be determined. If a side-mounted connection is required, the recommended placement is on the side of the equipment, facing the direction of shaft rotation (Figure 1). This positioning protects the oiler from oil sump surges that can occur during start-up, which may cause the oiler to overfeed. If frequent start-ups are necessary, the bottom-mount configuration is recommended (Figure 2). In some cases, eddy currents and oil turbulence can form due to slinger rings, discs and high rotating speeds. These currents can temporarily alter the level of the oil and ultimately cause the oiler to overfeed. When these rings or discs are present, mount the lubricator

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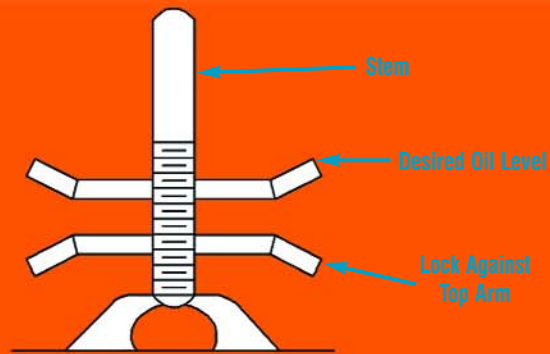


Figure 3. Level Adjustment Assembly



Figure 4. Cross-section of Optomatic



Figure 5. Pressure Differential from Air Flow

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using the bottom fitting, and connect it to the bottom of the equipment's sump (Figure 2). Check lubricant levels periodically to ensure proper application.

Many oilers contain a small vertical stem. Some are fixed to the unit, and others are part of a leveling assembly (Figure 3). The purpose of this stem is to break the meniscus, allowing the oil to feed properly through the unit. Often times, when these stems are part of a removable assembly, they are discarded during maintenance, causing the oiler to misfeed or not feed at all. Prior to installation, or after maintenance, verify that all parts of the lubricator are present.

When using a constant level oiler that is vented to the outside atmosphere, it is important to keep the oiler and/or the breather vent away from any air flow near the equipment. This air flow can come from any type of fan, such as a blower or motor fan. Fans create an air flow over the breather vent or the oiler, causing a pressure differential between the bearing housing and the oiler, leading to misfeeding.

To prevent this, install an extension pipe nipple on either the breather vent or the oiler connection. Replacing the vented constant level oiler with a nonvented or closed system oiler is another solution that also eliminates contaminant ingress.

A closed system oiler's operation and installation considerations are similar to those of a vented oiler. However, the closed system requires a vent tube to be connected from the lubricator to the bearing housing for pressure equalization. Also available are additional types of closed systems oilers that mount directly on equipment that has a port at the centerline of the oil level. This type of mounting does not allow the fluid level to adjust, thus eliminating potential installation errors.

### Improper Filling Methods

Care should be taken when replenishing fluids to predetermined levels. Understanding proper filling methods is important in preventing overfilling of the sump. Although

constant level oilers are simplistic in function, several mistakes are often made, such as filling through the top or the surge body and refilling too frequently.

When filling through the top of the equipment, knowing the required oil volume is necessary to achieve the preset level. If the oil quantity is known, then this method is considered to be a safe filling procedure. However, more times than not, the oil quantity is unknown and the oil is haphazardly poured through the top, using a sight gauge to determine the level. Unfortunately, this will result in a high fluid level due to residual lubricant draining from the internal components such as a shaft or gear.

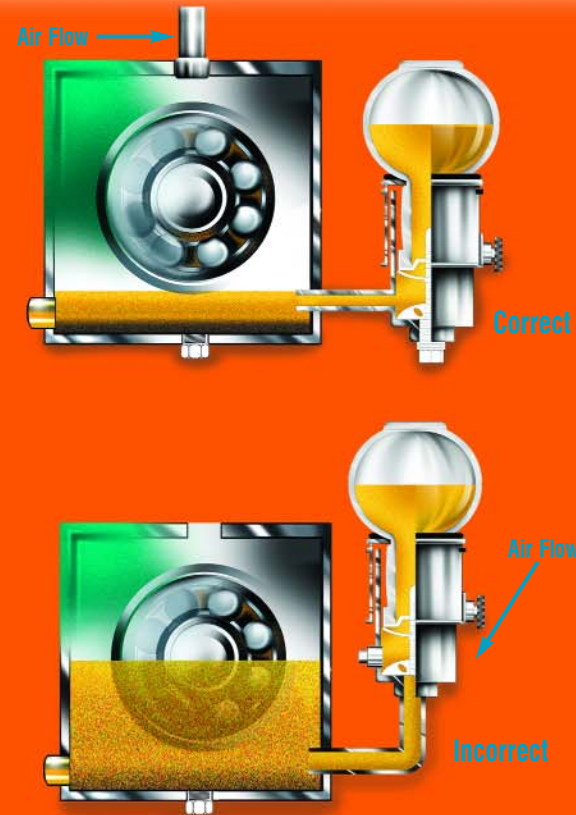
Proper oil volume can be achieved through the surge body when a sight gauge is present. The sight gauge is a visual aid for achieving the predetermined fluid level in the sump. Filling without a sight gauge can cause overfilling of the oil sump and surge body. An indication of overfilling is that fluid begins flowing from the surge body once the reservoir is replaced. To adjust for overfilling, drain the lubricant from the sump until the constant level oiler begins feeding, and reaches the preset level.

In addition, excessive refilling of the reservoir will also have a negative effect on the oil level. Each time the reservoir is removed and replaced, a small amount of lubricant is added to the oil sump level. Over time, this will increase the fluid level. To combat this, refill the reservoir only when it is half full or less. This will help minimize unnecessary filling.

Constant level oilers are an easy and effective method of maintaining proper oil level in equipment. Proper installation and usage will provide optimum performance of the lubricator as well as the equipment it supplies. By implementing the recommended guidelines, efficient and effective lubrication management can be achieved. **ML**

#### About the Author

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**Figure 6. Installation of Extension Pipe**

Note: When installing an extension pipe on the vented oiler in a side-mount configuration, do not use an elbow fitting, because this will change the fluid level in the oil sump.



**Figure 7. Closed System Opto-Matic**



**Figure 8. Watchdog Constant Level Oiler**