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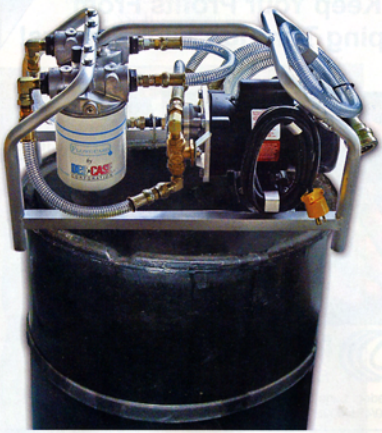
A New Twist for the Oil-handling Market

By Wendy Watts and Jon Haworth, Des-Case Corp.

Des-Case Corporation designs, manufactures and markets a complete line of contamination control products for a variety of industries and applications. Recently, Des-Case introduced the FlowGuard™ drum topper, rounding out its oil-handling product line. This latest filtration unit is a new twist for the oil-handling market.

Contamination Prevention

The drum topper acts as a portable filtration station, which ensures higher levels of oil cleanliness when used in daily operations, including filtering new oil directly from the drum, filling small totes and acting as an offline filter for critical equipment. Unfortunately, particulate and water contamination may corrupt new fluid during processing, mixing or handling. This contamination can be prevented or removed with the use of one or more of the FlowGuard™ systems.



Customizing the Drum Topper

The drum topper can be custom built based on the needs of the customer. Des-Case offers an online customization tool that is simple and direct, where end users can modify drum toppers on Des-Case's Web site. For those who prefer it in print, a user-friendly version is available offline to aid in the design of the drum topper.

Step No. 1

The first step asks the user to select a pump and motor to conform to his/her specific filtering requirements. These selections should be based on fluid viscosity, power source and reservoir size. Due to the damage caused by cross contamination, Des-Case recommends a different drum topper be used for each oil type. If this is not an option, using a drum topper for similar oils is second best and should include a filter change-out for each type used.

For viscosity equal to or greater than ISO VG 68 , two GPM air or electric options are suggested. These include most gear oils. Currently, the two GPM air or electric pump options are the only pump and motor combinations available for the drum topper. If electric

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power is selected, the standard motors are 115 or 220 VAC, single phase, 60 Hz.

Step No. 2

In the second step, the user selects the drain connector for the suction side of the drum topper. The options include flush face, ISO A, ISO B, wand or threaded end. The customer can configure any connection type with any size.

The flush face (also known as a dry break) is the best quick-disconnect and also the most expensive. This coupling is easy to clean and offers minimum leakage. ISO B is also a common coupling, and is the least expensive. This coupling meets ISO 7241-1 Series B standards. Another common coupling is the ISO A, but it is not interchangeable with an ISO-B coupling. This coupling meets ISO 7241-1 Series A standards.

A wand, a 3/4-inch by 42-inch long tube, is inserted into a reservoir or container for drawing out or delivering fluid. Although this method is the most common, it can introduce unnecessary contamination and creates fluid spills. Finally, a threaded-end option is available that includes a hose-end fitting with a pipe thread. The user supplies a connection type of his/her choice. The thread size is equal to the drain connector size.

Step No. 3

In step No. 3, the customer selects the fill connector for the pressure side. The same options apply here as for the suction side connectors. It is recommended that the pressure side be sized smaller than the suction side, ensuring the two are never incorrectly connected.

Steps No. 4 and 5

In the fourth and fifth steps, the customer selects two filters. Typically, filter A is used as either a water removal filter or a pre-filter. Because the oil will flow through filter A before filter B, it is recommended that filter A be used to remove either water or large particulates. High-capacity spin-on filters are available in three, six and 12 micron at $\beta x > 200$.

A differential pressure indicator helps specify the filter condition. The filters should be changed before reaching 25 PSID because filtration cannot take place at this level. A differential pressure indicator will denote when the filter reaches 22 PSID.

During new oil handling, select the correct filters for the oil type (viscosity) being used. These recommendations are based on fluid temperature above 70°F (21°C) and flow rate of two GPM.

For ISO < 68:	Filter A - Water removal element
	Filter B - Three-micron element
For ISO > 68:	Filter A - Water removal element
	Filter B - Six-micron element

To minimize contamination, transfer fluid into the system utilizing the Flowguard™ adaptor kit. These kits employ quick-disconnects to ensure the breather port is never opened and no unfiltered air is allowed into the system.

The Final Three

In the sixth step, the drum topper is fitted with a filter bypass valve. The valve allows the user to transfer fluid without filtering. This option is recommended when removing used fluid from a system for disposal. It can also be used for transferring fluid that has already been filtered.

The customer decides if the unit is to be fitted with sample ports in step No. 7. By fitting the unit with a sample port, oil can be sampled directly from the drum topper. The sample ports allow sampling to take place without exposing the fluids to ambient contamination. Samples are taken while the drum topper is in operation. Two locations allow the fluid to be sampled before or after the filtration process has taken place.

The final step is to choose the color of the drum topper. This is a good time to assign a color for each lubricant in use. Currently, there are five colors to choose from, but additional colors can be selected through customer service.

A Proactive Step

Purchasing a FlowGuard™ drum topper is a proactive step companies can take toward meeting best-practices guidelines, which can also be considered a safeguard against various problems including equipment failures and plant shutdowns. Once in the plant, the customized drum topper can provide additional benefits such as cost and time savings, quality return on investment and increased uptime. ML