

Oversized Suction Strainers for Hi-Flow Applications: OFCO Model "OS"

Suction strainers are used in hydraulic systems to remove contaminants from process fluids that can damage pumps. Suction strainers are far less restrictive than other filtration devices within the system because their sole purpose is to protect the pump. Therefore, "straining" should take place instead of "filtration." These terms can be considered synonymous but there is a definite difference. Straining generally refers to a filtration level of 200 mesh (74 micron) or coarser. Too fine a filtration could also cause cavitation to occur. Pumps are manufactured to take a beating, but it is necessary to keep them smoothly operating so they can effectively do their job. That is why it is no secret that hydraulic pumps need protection. After all, the pump is the most important component in the hydraulic system. If the pump breaks down, the system breaks down. The pump is the "heart" of the system. This bulletin highlights important considerations for systems with large flow rates.

1. Cost must be considered when it comes to larger hydraulic systems just as in smaller systems. Maximum attention needs to be taken to service the system.
2. Generally speaking, larger systems have higher costs than smaller systems. For example, a system with a pump that pushes 5 gpm of hydraulic fluid, will have a lower overall operational cost than a system that requires 400 gpm. If a flow rate is high, it obviously means it is a larger system. That means if the system breaks down there would be much higher additional costs for service, repair, and/or replacement of components.
3. When it comes to suction strainers, the most common ones are those that strain anywhere from 3 gpm to 100 gpm. One may believe that if there is a requirement for a pump to properly strain the fluid in a 400-gpm application, you can merely tee 4-100 gpm strainers to cover the flow rate. However, every time fluid travels around a bend or corner in the line, it creates an additional, unwanted pressure drop. Therefore, the answer would be to install one larger strainer that can handle 400 gpm. Fewer bends equal lower pressure drops. The same ideal pressure drop across a clean screen in a large strainer should be the same as in a strainer used in a smaller system, 0.2

psid using standard viscosity fluid of 150 SUS at standard operating temperature of 100-125° F, with approximately a 100 mesh media filtration. This is a general requirement.

4. Installing the correct size suction strainer is necessary. Large, oversized suction strainers are available with all the same details as those for the smaller system, ie; with or without a bypass (relief) valve and with common mesh sizes.

Benefits of OFCO OS Strainers

Reliable, low-cost straining of petroleum-based fluids, most coolants, some phosphate esters, lubricating oils, and other process fluids.

Features

Plated steel male (nipple) and female (coupling) end caps, stainless steel pleated wire cloth, and perforated support tube, all epoxy bonded, are used for strength and stability to hold the strainer body in place to collect large amounts of contaminant. Designed as an in-tank strainer to be installed below the fluid level for maximum effectiveness.

Options

An optional bypass (relief) valve is available with either 3 or 5 psi for a safety factor to protect the pump in case there is an extreme pressure drop or strainer becomes indexed. This valve allows unfiltered fluid to bypass the strainer until service or replacement is performed.

Specifications

- Pipe sizes: 3" and 4" npt nipple or coupling
- Flow rates: 200, 300, and 400 gpm models
- Mesh sizes: 30, 60, 100, 200
- Diameters: 5.9" and 8.1"
- Lengths: vary (consult manufacturer)
- Bypass option: 3 or 5 psi

For more information, please click on the links below which will take you directly to the Oversized Suction Strainers on our website.

[Model OS Giant Suction Strainers 5.9 diameter](#)
[Model OS Giant Suction Strainers 8.1 diameter](#)

When the application warrants a large, oversized suction strainer because of the flow rate, it is critical to properly install one. The protection needed is the same as in smaller systems. Regular scheduled maintenance should be standard operating procedure.

