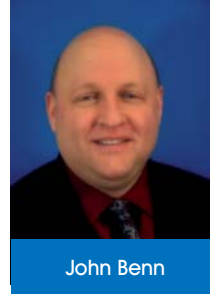




10 Things To Know Before Buying A Hydraulic Reservoir

By John Benn, Propower Manufacturing

Regardless if you are an OEM, installer or end user, there are important things you need to know about buying a hydraulic reservoir. Everyone deserves a quality tank, delivered quickly at a fair price. Quality is at the top of the list because the tank has to function properly right away and stay in operation for years to come, often in hostile conditions. Here are the “10 Things” explained in simple English to help you understand exactly what to look for and why. Keep them at hand when it comes time to specify the tank you need and the manufacturer to build it.



John Benn

1. Bigger Is Better

You depend on your reservoir to provide a reserve of fluid in addition to that used by the system. This reserve fluid makes up for losses in the system, compression of the fluid under pressure, and it compensates for volume loss when the fluid cools. More importantly; the reservoir acts as a radiator to dissipate heat from the fluid. Order a reservoir with 10% greater capacity than the minimum requirement to help your system run cooler. As a rule of thumb the reservoir should be about two and a half times the pump output per minute.

2. It Sucks!

The suction at the pump inlet causes a swirling action similar to water draining in a sink. This introduces unwanted air into the system. Be sure to specify a reservoir with anti-vortex to prevent this from happening. You should never presume that it comes standard.

3. It Must Have Diffusers

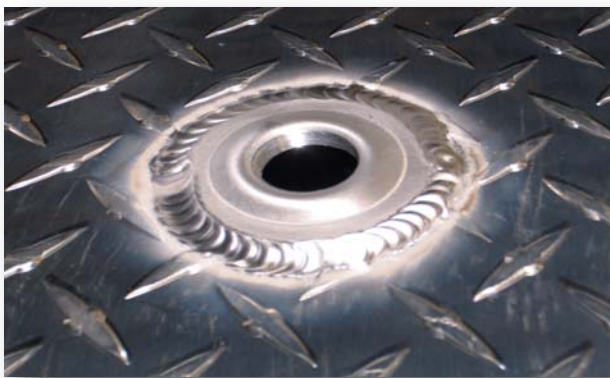
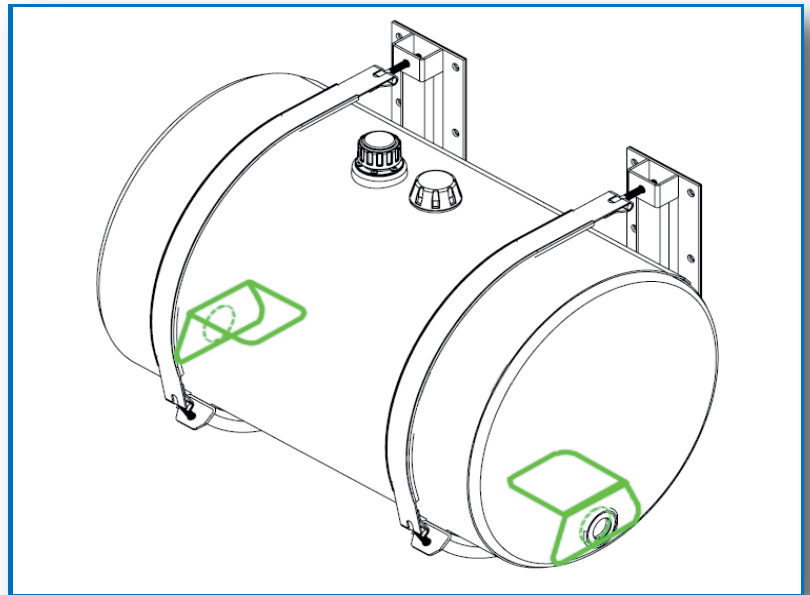
Some manufacturers may cut corners by eliminating diffusers from their reservoirs. Make sure the hydraulic tank you order comes with a diffuser. It has three important purposes – it helps to distribute the heat in the tank, separates the entrained air from the fluid and helps prevent contaminating particles from reentering the system. Instead they settle harmlessly on the bottom until removed by cleaning or flushing.

4. Better Cooling

The reservoir should be designed with the maximum possible separation of the suction and return ports to increase fluid cooling capacity.

5. Material Thickness

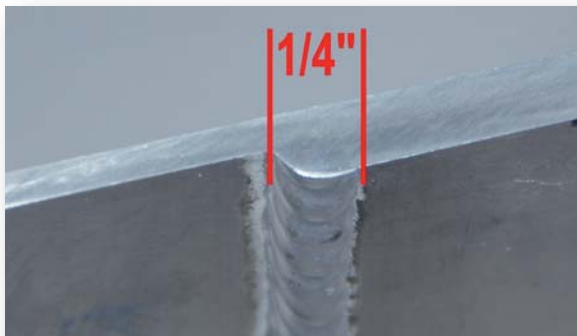
Reservoirs can be made of several different materials. Insist on 1/8 inch aluminum, 12 gauge steel or 14 gauge stainless steel. Either of these will last for many years.



6. Identifying A Proper Weld

Heavy hoses connected to the flanges combined with constant vibration can cause metal fatigue and eventual failure. If you are getting an aluminum reservoir insist that they use TIG welding on their flanges. It is much stronger than MIG welds. The TIG process produces a narrow heat affected zone (HAZ) which in turn reduces solidification stress, cracking, and distortion in the finished weld. You can identify a TIG weld by its "stacked dime" appearance. See photo of weld flange.

7. Ask About Weld Types - Ask for a picture with a close up view of their welds – look for a convex weld 1/4 inch wide, continuous, with no porosity and deep penetration.



Weld Must Be 1/4 Inch Wide



Weld Must Have Deep Penetration



8 . Specify A Pressure Tested Tank

Insist on 100% leak testing at 5 psi. Don't accept statistical process control (SPC). Statistical process control means they take a few random samples and pressure test them. It's a bit like Russian roulette. Do you want to take the risk of receiving the tank with a pinhole because it wasn't pressure tested? We believe manufacturers should do more than talk about quality - testing every tank is the only way to ensure quality.

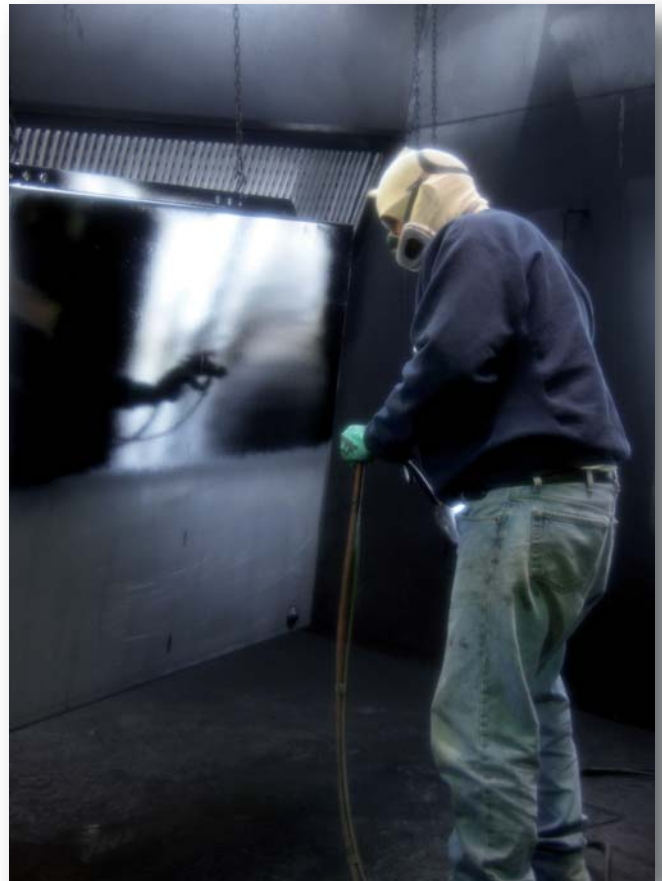
9 . Specify The Coating

In many parts of the country road salt and salt from the sea air near coastal waters is one of the biggest enemies of metal tanks. Ask the manufacturer what kind of coating they use to protect their tanks from the elements. Insist on rust resistant enamel paint or powder coat to inhibit rust caused by environmental conditions.

10 . Consider A Filter

Filters are usually available as an option – either inline or internal filters. It's a small price to pay for the peace of mind it brings.

As the manufacturer of premium hydraulic tanks we take pride in offering the industry the best tanks at fair prices. We recognize the importance of flawless functionality so we take all steps to ensure our products exceed industry standards.



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