DOWNSIZING MAGAZINE

NEWS FROM PMC HYDRAULICS

Downsizing takes hydraulic oil reservoirs into the future

PMC Hydraulics presents a new compact reservoir for the OEM trade

Downsizing that makes a difference: the broken outline indicates how much space you can save by choosing PMC Hydraulics' new compact reservoir.

People in the OEM business have to contend daily with two big questions: How can we fit all the technology in? And how can we reduce the weight? PMC Hydraulics can now present a welcome solution to both problems; a new compact hydraulic oil reservoir.

If you are trying to find mobile OEM solutions, you face the daunting task of putting all the pieces together so that everything will fit in.

You have to find room for not only competitive innovations, but also what is needed to satisfy ever-tougher environmental requirements.

With the new compact hydraulic oil reservoir from PMC Hydraulics you can save an average of 50 to 75 percent of the space compared to traditional applications – often much more than that. At the same time you have less oil volume, and the weight is far below what has been normal up to now. So is the cost of hydraulic oil and oil changes.

The reservoir performs the same function as the traditional type. But this compact design is technically and operationally superior in several respects. Some of the advantages are listed in the fact box on the next page.

Stainless-steel turnkey package

What is new from PMC Hydraulics is more than just a reservoir. It is a complete package, equipped with the necessary filters, transmitters, valves, etc., all ready to build in and connect to the hydraulic system.

Because the reservoir is small, it is economically advantageous to make it of stainless steel. That way it lasts longer. Another point is that the reservoir is thoroughly cleaned during the manufacturing process, as it is pickled after welding.

Development takes a new path

Do you build earthmoving or logging machines, forklift trucks or other mobile machines? Are you in the automotive business? Do you spend your days developing and manufacturing diesel engines?

Depending on your line of work, either low weight or compact size is the most important consideration when you are looking for components and systems. Traditional hydraulic reservoirs act as a brake on technological development because of their size and weight. But now development has taken a new path with PMC Hydraulics' downsizing initiative.

A dependable OEM partner

PMC Hydraulics has more than half a century's experience of hydraulics as an expert solution provider, industrial partner and supplier of components and systems. PMC Hydraulics offers one-stop shopping – a partner who assumes all-in responsibility; you do not have to shop around to put together a reservoir package with all the bells and whistles. PMC Hydraulics is part of the PMC Group, which is Northern Europe's leading supplier of hydraulic systems to industry.

Innovation with origins in food technology

The new compact reservoir from PMC Hydraulics was inpired by another unique Swedish invention that revolutionised food processing all over the world.

The current sensational innovation from PMC Hydraulics in Sweden can trace its origins to another, much older Swedish invention – the centrifugal separator that skims cream from milk. The physical principle is the same: separating two substances of different densities by rotation. In PMC Hydraulics' new compact reservoir, the oil is de-aerated by rapid rotation, oil being much denser than air. The concept has been further developed and refined by several years of product development according to Thomas Dahl of PMC Hydraulics, one of the team that created the reservoir.

"By tradition the oil exchange in the reservoir has to be slow, to give the air enough time to escape by rising to the surface. We do precisely the opposite, accelerating the oil to force the air out of it", Mr Dahl explains.

The old industrial rule-of-thumb says that the volume of the reservoir should be "three times the pump flow". PMC Hydraulics' new reservoir manages with a volume equal to the volume change in the system plus 20 to 25 litres. That means it can be made smaller and can weigh less. We are talking here about a complete reservoir with all the accessories fitted and adapted to the customer's requirements.

"Application flexibility is maximal, regardless of where or how the reservoir is to be used", promises Thomas Dahl.

Examples of design and operational advantages:

- Smaller built-in volume, reduced oil demand
- Lower weight
- Less condensate
- Less oxidation of oil
- Reduced sensitivity to tilting compared to traditional reservoirs
- Design assures high reliability

200 extra kilograms in a diesel engine? No longer a problem

The pace of development of diesel engines has accelerated rapidly, especially the drive for "greener" alternatives. Standards such as Euro V, Euro-Norm, Abgasnorm and Tier 4a/b are driving the trend to reduced emissions, and the industry is devoting vast amounts of effort and capital to producing more environment-friendly engines. One obstacle on the road to optimum engine design has been that engines are taking up more and more space and getting much heavier. The new and bigger engines weigh up to 200 kilograms more than present-day ones. Manufacturers had a problem with weight even before, but all the extra kilograms it takes to satisfy environmental demands have further aggravated the problem.

One solution is to choose the new compact hydraulic oil reservoir from PMC Hydraulics. That frees so much space and saves so much weight that the extra kilograms are no longer a worry.

Will PMC Hydraulics be a hero here?

They say you are hailed as a hero if you can save a single kilogram for mobile OEM customers. PMC Hydraulics' compact reservoir can probably save up to several tons…

Other Swedish inventions that have made the world a better place

A safer way to make fire
By moving the igniter chemical to the side of the matchbox, Gustav Erik Pasch gave the world the safety match in 1844 to replace lethally hazardous phosphorus matches.

Skimming off the cream
The cream separator works on the same centrifugal force principle as PMC Hydraulics' new compact hydraulic oil reservoir. It was developed by Gustav de Laval, who in 1878 perfected the first continuously working separator. Its first application was separating cream from skimmilk.

Holding things together
The adjustable spanner of the type used all over the world today was invented by Johan Petter Johansson in 1892, In the United States they call it the "Swedish wrench key".

Food and beverage revolution
The refrigerator as we know it today, based on the absorption principle, was launched in 1922 by Baltzar von Platen and Carl Munters.

Heart's desire
The pacemaker is an electronic heart stimulator that has prolonged the lives of grateful patients all over the world. Physician/inventor Rune Elmqvist was the first to construct a surgically implantable model. The first one was implanted in a patient in1958.

Leader in Northern Europe with the world as our workplace

PMC Hydraulics is part of the PMC Group, Northern Europe's leading supplier of hydraulics to industry, with its roots firmly embedded in Nordic mechanical engineering tradition. Its operations are nowadays oriented towards a global presence.

PMC Hydraulics is a specialist company with long experience of developing and manufacturing customer-specific hydraulic power packs and systems for customers in the Mobile Systems area, e.g. in logging and goods handling, as well as in the industrial and marine sectors. PMC Hydraulics is also a well established vendor of components from leading manufacturers.

Power Motion Control
PMC Hydraulics is part of the PMC Group, Northern Europe's leading supplier of total solutions in the field of PMC – Power, Motion, Control. PMC specialises mainly in hydraulics, but also possesses cutting-edge capability in pneumatics, lubrication and electromechanics.

Borderless collaboration
The companies in the PMC Group are co-ordinated in pursuit of their common objective of fullly utilising the combined skills of the Group. Results have not been slow in coming. Our companies now collaborate with each other without regard to frontiers. No assignment is too complicated, too small or too large for the Group, which can draw upon the diverse capabilities and resources of all its members.

Where the action is
Although most of our business is done through a number of companies in the Nordic Region, the Group's systems, products and service technicians are to be found wherever in the world our customers have their production facilities and their markets. As part of the PMC Group's strategy of following its customers in their global expansion, we have started manufacturing in China and the USA and opened a service unit in Qatar, and more international ventures are in the pipeline.

Total solutions

Global thinking

Peak capability through collaboration

pmc hydraulics

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