

PowerPack Load Sensing

—HYDROSTA

General

A maritime system differs from the other units by the use of a load-sensing pump and valve block. This pump can be driven either with an electric motor or with a combustion engine. Combinations of those two is also possible.

Because of the versatile options and compact construction it makes the Hydrosta Load Sensing Powerpack a unique set. The Load Sensing PowerPack is often used in combination with a Load Sense pump driven by a diesel engine. These PowerPacks are excellently suited for long-term and intensive use and are made up of the following components as standard:

- Reservoir (steel or aluminium), as standard or custom build
- Filler cap with venting
- Sight level glass with temperature gauge integrated
- Multifunctional valve block with integral return line filter
- Vibration cushioning
- LS pump to the diesel engine (PTO/ front or rear mounting)
- Possibly supplemented by electric pump set for backup
- Possibly designed with optional priority valve.

The Load Sensing design can be expanded for several user functions. The specific pressure and flow can be adjusted for each single function. With this Load Sensing design the sections are compactly assembled.

Advice

There are several valves that require adjustment on both side, front and back. All users are hydraulically connected on the backside. It is recommended that space must be reserved here for service and installation. The return filter is located inside the valve block. It must be possible to replace this filter, therefore extra space is needed above the reservoir. The sight level glass must be readable at the drain plug accessible for service.

Choice of pump

The required output determines the layout of the pump. This output is called the 'flow'; and is announced as litres per minute (lpm). The formula for the calculation of the displaced volume is:

$$\frac{\text{Maximum desired flow} * 1000}{\text{Number of motors} * \text{idle speed of diesel engine}} = \text{displaced volume of pump}$$

Hydraulic functions

Hydrosta offers a wide range of valves and regulation blocks. The blocks are used to control the hydraulic oil correctly from the pump to all different users. A so-called valve block can be simply assembled based upon the functions that are operated hydraulically. Of course it is possible to assemble functions based upon the customer's own specifications - just ask about the possibilities!

A Hydrosta valve block is assembled and tested by own engineers. Each function is adjusted to the desired maximum pressure and the required flow. The pump module contains a maximum pressure relieve valve to protect all functions.



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