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Nextelligence Newsletter

Issue #4

February 2023



Welcome to the Nextelligence Newsletter!

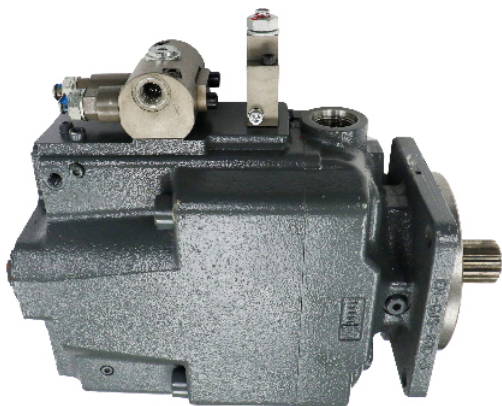
Welcome to the fourth edition of the Nextelligence Newsletter. We look forward to continuing to provide the latest news in the Nextelligence training community.



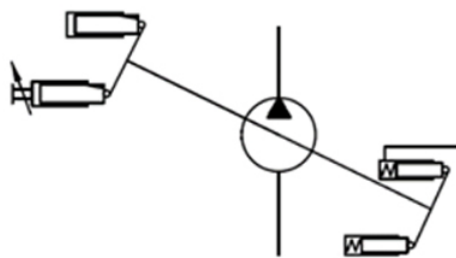
Are you under pressure?

This month's edition of the Nextelligence Newsletter will discuss the difference between hydraulic pressure and hydraulic flow. We often use these terms interchangeably when they are actually two different principles.

Flow is the output provided by a hydraulic pump like the pump pictured below. Flow is typically measured in gallons per minute (GPM), and the tool or instrument to measure this flow rate is called a flow meter. The result of flow is the speed of a component, such as a cylinder in the hydraulic system. You will often hear a technician say, "flow makes it go."



**Pressure Compensated
Piston Pump**



Hydraulic Schematic Symbol

Sometimes technicians have the misconception that the pump produces pressure. As a result, they will often say, “My pump isn’t giving the expected pressure in the system, so I am going to change the pump.” Unfortunately, this can be a costly misconception. As stated above, pumps do not create pressure; pumps produce flow. Pressure is the resistance to flow. For example, Force exerted on a cylinder to lift a load will produce pressure. Pressure is typically measured by measuring the resistance in the circuit in pounds per square inch (PSI).

We place relief valves in the hydraulic system to protect the hydraulic components from being over-pressurized and causing damage by allowing the relief to open or “relieve” the circuit pressure at the desired operating pressure. If the relief is stuck open or misadjusted, it can cause improper hydraulic performance by not allowing the system to produce full system pressure. Knowing the difference between flow and pressure can save the technician a lot of time and money by knowing where to look first rather than instantly assuming low pressure is caused by a faulty pump.

As technicians, we should use the tools shown below to check for pressure and flow in a hydraulic circuit. Be sure to use a flow meter or pressure gauge rated for the unit of measure you are trying to record.



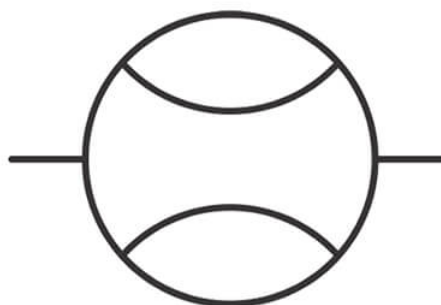
Pressure Gauge



Hydraulic Schematic Symbol



Flow Meter



Schematic Symbol for Hydraulic Flow Meter

Would you like to know more about hydraulic flow and pressure and how it affects components in a hydraulic circuit? Good news! We teach that in our Nextelligence MAT classes, where you will learn Pascal's Law, which teaches how hydraulic force, cylinder piston area, and pressure affect your refuse vehicle's entire operation. You can get in-depth hydraulic training by contacting us to register for a Nextelligence MAT class at: Nextelligence@doveresg.com

Contact Info & Helpful Links

Nextelligence Class Registration

Feel free to contact us anytime if you have any training questions or to register for one of our training classes.

[Email Training](#)

2023 Nextelligence Training Schedule

Our 2023 Training Schedule is now available and can be viewed via the Nextelligence Training webpage, as well as the Heil Dealer Portal.

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