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MTS Sensors provide durability in harsh refuse collection environments…

MTS MH SENSORS MAKE REFUSE COLLECTION VEHICLES PERFORM BETTER, LONGER

CARY, N.C. - (May 15, 2008) -- MTS Systems Corp., Sensors Division is providing its MH mobile hydraulic magnetostrictive sensors to FAUN Environnement (Guilherand Granges, France) for the vehicle manufacturer's VARIOPRESS rear loader series. The VARIOPRESS removes selective and household refuse at a quantity of 1,000 bins a day.

"Due to their excellent reliability, high interference immunity and compact construction, the magnetostrictive Temposonics® sensors are tailored perfectly for the motion control requirements of mobile equipment," said a spokesperson for FAUN Environnement. "The MH sensor meets our requirements for its use in our refuse collecting vehicles. Their EMC level, high resistance against vibrations and robustness are unequalled in the market."

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The VARIOPRESS is a versatile machine that can handle a large variety of containers in differing shapes and sizes from 21 to 290 gallons. The VARIOPRESS utilizes the TWINLIFT hydraulic lifting and discharging system that ensures speedy truck filling using a fully automated lifting system.

Smaller bins can be lifted by using just one of the lifter units. This configuration improves productivity by allowing both lifts to operate simultaneously yet independently. Typically, this added productivity is gained by sacrificing the ability to handle larger bins that require the lifting capacity of a larger single-lift design. The TWINLIFT design solves this problem by synchronizing the hydraulics of both lifts through electro-hydraulic motion control.

The parallel operation of the lifter units requires synchronization of the hydraulic cylinders while lifting, discharging, and lowering the larger container. For this purpose, MTS sensors are used to monitor the lifting cycle. Each hydraulic cylinder in the lifter units is fitted with an embedded sensor that provides position information back to the controls for the electro-hydraulic valves. The speed of the cylinder and thus the discharging movement is controlled based on the position of the lifter unit cylinders.

Knowing the position of the cylinders also allows the electro-hydraulic controls to accelerate and decelerate the motion of the cylinders at the end of cylinder stroke. This capability is used to prevent hard shocks and load peaks due to the cylinder bottoming out at the end of stroke and protects the cylinders by eliminating continuous impacts to ensure a prolonged service life. Additionally, the noise level diminishes considerably, because the cylinders are no longer impacting at the end of stroke. In only eight seconds, the automatic lifter discharges bins of up to 82 gallons and it takes only 11 seconds to discharge 290-gallon bins.

Precise motion control is critical for safe parallel guidance of the lifting units and the output of the sensor must be consistent even under the harshest environmental conditions.

Empirical testing has proven that high accuracy of the sensors is also a fundamental requirement for even discharge control, in particular, if the container has an uneven load distributed across the synchronized cylinders.

MTS' MH sensor, designed specifically to be embedded in hydraulic cylinders, provides high reliability, immunity to interference, and accuracy when compared to other solutions. Additionally, magnetostrictive technology does not require direct contact between the position magnet and the sensing element eliminating any points for wear. Designed for cylinders two inches in diameter (or larger), the MH sensor provides a measuring range of two to 98 inches, while maintaining high levels of accuracy and repeatability.

"Municipal refuse collection vehicles are increasingly employing intelligent sensors to increase productivity, safety and work quality," said Brian Cox, technical marketing manager, mobile hydraulics, MTS Sensors. "Sensors in these vehicles are constantly subjected to harsh and unforgiving conditions including high shock and vibration, stone impact, various environmental conditions and electromagnetic interference. Robust construction, low maintenance and a long service life are the key criteria when FAUN specs components."

For more information on the MTS Sensors Group and mobile hydraulic position sensing, please contact: Brian Cox, MTS Sensors Division, 3001 Sheldon Drive, Cary, NC 27513; call (919) 677-0100; email brian.cox@mts.com; or visit http://www.mtssensors.com

MTS Systems Corporation is the world leader in magnetostrictive linear-position and liquid-level sensor technology. MTS Systems Corporation is a global operation, with facilities in the U.S., Germany and Japan. In the U.S., the MTS Sensors Division has an ISO 9001 facility manufacturing rugged and reliable liquid-level and linear position sensors based on patented MTS Temposonics® technology. With a strong commitment to research and development, product quality and customer service, the Sensors Division is constantly seeking ways to bring the highest value to customers.

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