



December 7, 2009

Sauer-Danfoss launches H1 60cm³ Bent Axis Motor

The new H1 bent axis motor joins the successful H1 family, providing further improvements in efficiency, reliability, and flexibility.

NORDBORG, Denmark, December 7, 2009 – Sauer-Danfoss Inc. (NYSE:SHS)

Sauer-Danfoss has released its new H1 60cm³ bent axis motor, the next size in a series of motors designed to complement the growing range of H1 axial piston pumps. With the introduction of the H1 bent axis motors, Sauer-Danfoss offers a complete H1 transmission system, optimized around electrical control. The H1 motors not only provide OEMs with improvements in reliability and flexibility, but also provide higher overall efficiency, resulting in lower fuel consumption and reduced life cycle costs. Typical applications that will benefit from the new H1 bent axis 60cm³ motor are rough terrain forklifts, combines, sprayers, road rollers, wheel loaders and road building equipment.

The new H1 bent axis variable displacement motors have been designed to ensure outstanding reliability and high quality. Optimized for electrical control, they are fully PLUS+1TM Compliant, enabling seamless integration with Sauer-Danfoss' electronic machine control architecture. To withstand the harshest working environments, the electrical controls are designed with an IP67 and IP69K rating. The H1 60cm³ bent axis motor is an evolution of proven technologies centered on a high displacement ratio of 32 degrees, zero degree capability, and higher overall efficiency. This combination provides a unique range of benefits that fit any OEM's requirements for machine design.

High Efficiency

An extensive simulation and testing program for the H1 bent axis motors has resulted in significant improvements in overall efficiency and an extremely low pressure drop within the fluid galleries of the motor. The H1 bent axis motors have a 6 percent efficiency gain at maximum displacement (high torque working cycle), compared to the nearest competitor.

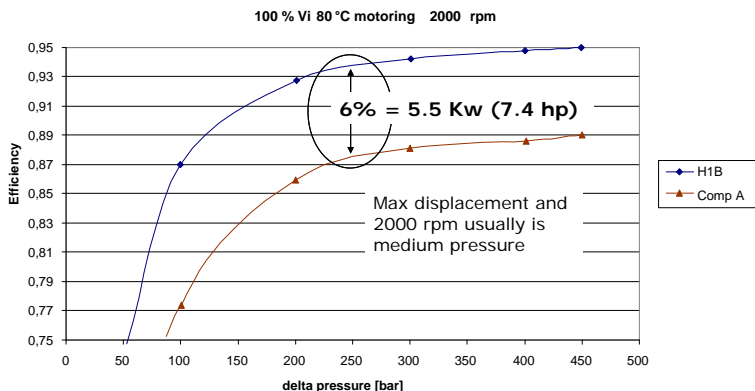


Figure 1: H1 Bent Axis Motor Performance Compared to Competitor A

Combined with H1 pump efficiencies, this helps improve fuel economy and provides power savings for other vehicle functions, enhancing operating performance and increasing

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productivity. “To meet increasingly stringent global engine emission standards, OEMs will require more effective systems that maximize the utilization of engine power,” says Branko Horvat, Product Portfolio Manager, “and the H1 bent axis motor is a core component that will help ensure the success of these new systems.”

Zero Degree Capability

A key feature of the new H1 motors is their zero degree capability. It provides for seamless 'on the go' shifting from 32 to zero degrees, such as in wheel assist applications, providing for a smooth transition with little or no torque interruptions or sudden speed changes. This enhanced control is not only more precise, but also improves the feel of the system during operation. The H1 motor will also shift seamlessly between two speed ranges, for example, work mode and travel mode, regardless of displacement settings. “The value that zero degree capability brings to the customer is the flexibility in design to meet many machine operating conditions,” says Horvat. “It enables OEMs to offer additional features, such as anti-slip functionality and torque control, which optimize the use of available power and improve productivity.”

Optimized for Electrical Control

Energy conservation and functional safety (Safety Integrity Level – SIL) is driving the demand for electronic engine management and vehicle control for off-road mobile machinery. As such, H1 bent axis motors have been designed around electrical controls, which allow a range of vehicle control concepts to be produced using the same motor hardware. With electronic control, the H1 system can be optimized to match the requirements of specific vehicle functions by adjusting the software parameters.

Designed for Quality and Reliability

H1 motors have been developed around a common design concept, in order to ensure outstanding motor performance. This design commonality provides improvements in quality and reliability at the factory level and leads to benefits of uniformity and familiarity at the OEM level, supporting standardized machine design.

The H1 motors have the shortest length of any motor available on the market today, and at least one “clean side”, increasing vehicle design flexibility and facilitating installation. The higher speed capability of the motors also results in a high corner power and power density. This provides more power without increasing the size of the motors, which not only saves additional space, but also enables OEMs to design more compact system solutions.

About Sauer-Danfoss

Sauer-Danfoss Inc. is a worldwide leader in the design, manufacture, and sale of engineered hydraulic, electric and electronic systems and components for use primarily in applications of mobile equipment. Sauer-Danfoss, with 2009 revenues of approximately \$1.2 billion, has sales, manufacturing, and engineering capabilities in Europe, the Americas, and the Asia-Pacific region.

More details online at www.sauer-danfoss.com.

PHOTO CAPTION: Sauer-Danfoss' H1 hydrostatic family now includes the 60cm³ bent axis motor – optimized around electrical control.

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