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## **NEW PRV AND PSV PROPORTIONAL VALVES FROM SAUER-DANFOSS ADD CHOICES IN MOBILE EQUIPMENT SYSTEM DESIGN**

Sauer-Danfoss has introduced two new hydraulic valves for the off-highway equipment industry that give design engineers new choices in configuring control schemes for their machines' specific applications. The new models, the PRV electro-proportional relief valve and the PSV electro-proportional four-way directional control valve, offer smooth proportional functionality for hydraulic circuits. The valves were developed by design engineers from Reggio Emilia, Italy and Hillsboro, Oregon, USA, to meet the needs of international manufacturers of aerial lift and material handling vehicles and will be available from Sauer-Danfoss facilities in both the USA and Europe. Both valves are also well suited for mobile equipment applications in turf care, road building, agriculture, construction, municipal and other industries.

The latest addition to Sauer-Danfoss' broad line of cartridge and proportional valves, the PRV and PSV valves can be employed in custom manifolds to create Hydraulic Integrated Circuits (HICs) that offer less plumbing, easier installation, fewer leak points and easier service than traditional valve systems. The new valves are PLUS 1 compliant to easily integrate into a customized electronic control system developed with the Sauer-Danfoss PLUS 1 software and hardware released in March 2004.

For the owner, the valves help regulate precise load pressure, providing optimal machine performance and improved operator comfort and safety with smoother driving, lifting and loading work functions. In addition, the PRV and PSV valves utilize existing Sauer-Danfoss coils, reducing the number of service parts to order and maintain.

### **The PRV Valve Applications**

The PRV valve controls pressure proportional to the valve input signal. This normally closed valve allows the operator control over the pressure in a hydraulic system or control of pressure to a specific actuator, such as a hydraulic motor operating a fan to cool the engine. The PRV also has a maximum relief pressure when no signal is supplied to the valve, which allows pressure protection even when there is a loss of electrical input. The PRV is rated for pressures up to 250 bar (3600 psi). Two sizes are available – the smaller size fits the industry standard 10-2 cavity,

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and the larger size fits the industry standard 12-2 cavity. Flow capability is 80 lpm (21 gpm) and 190 lpm (50 gpm), respectively.

### **The PSV Valve Applications**

The PSV valve is a four-way, three-position valve that controls output flow proportional to the valve electrical input. This allows the operator fine control of the direction and speed of a cylinder or motor. Typical applications include cylinder control on boom lifts, scissor lifts, or small cranes and low power propel systems on scissor lifts or greens mowers. The PSV valve fits the industry standard 10-4 cavity and is rated for flows from 0 to 22 lpm (5.7 gpm) and pressures up to 250 bar (3600 psi).

“As manufacturers move toward more integrated machine designs, we are building upon our existing technology and international expertise to create a comprehensive range of valve choices that will help OEMs meet new requirements without sacrificing productivity,” said Dave Wohlsdorf, Product Manager. “We look ahead globally at all the possible details involved in speed, power, cost, safety, comfort and service, and develop the most advanced components and systems that design engineers could use to create the ideal schemes that maximize the performance of their machines.”

### **For further information please contact:**

#### **For photo material:**

**Jette B. Christensen**

**Sauer-Danfoss**  
Nordborg  
Denmark

**Phone: +45 7488 4604**

[jbchristensen@sauer-danfoss.com](mailto:jbchristensen@sauer-danfoss.com)

#### **For Technical Information:**

**Oliver Bewersdorff**

**Sauer-Danfoss**  
Neumünster  
Germany

**Phone: +49 4321 871604**

[obewersdorff@sauer-danfoss.com](mailto:obewersdorff@sauer-danfoss.com)

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