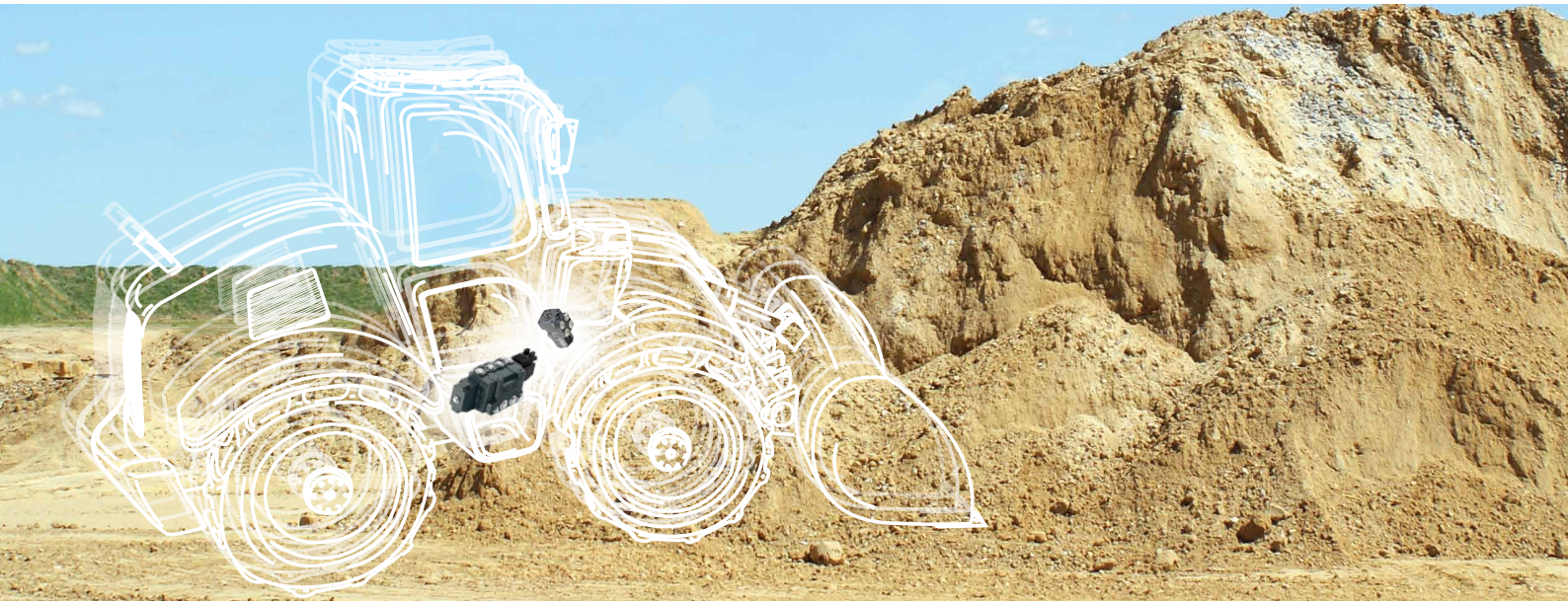


# EHPS Electrohydraulic Power Steering



Improved Driver Comfort & Increased Vehicle Productivity

 COMPLIANT

 **SAUER  
DANFOSS**

*What really matters is inside®*

# Our EHPS Steering Valve Ensures Smooth Operations

With the electrohydraulic steering system from Sauer-Danfoss you benefit from:

- High steering pressure requiring smaller cylinders and oil flow
- Low pilot pressure (max. 30 bar) giving an extremely low noise level in the cab
- The possibility of manual steering even on very heavy vehicles in the event of pump failure
- Minimization of side acceleration on vehicles with articulated steering
- With microcontroller: No steering wheel drift and the possibility of variable steering ratio between steering wheel and steered wheels. This option also gives the possibility of "inter-facing" with automatic steering
- Facility for CAN bus interface
- EHPS can be combined with Sauer-Danfoss PVG 32 proportional valves.

## Off-road / On-road Approval

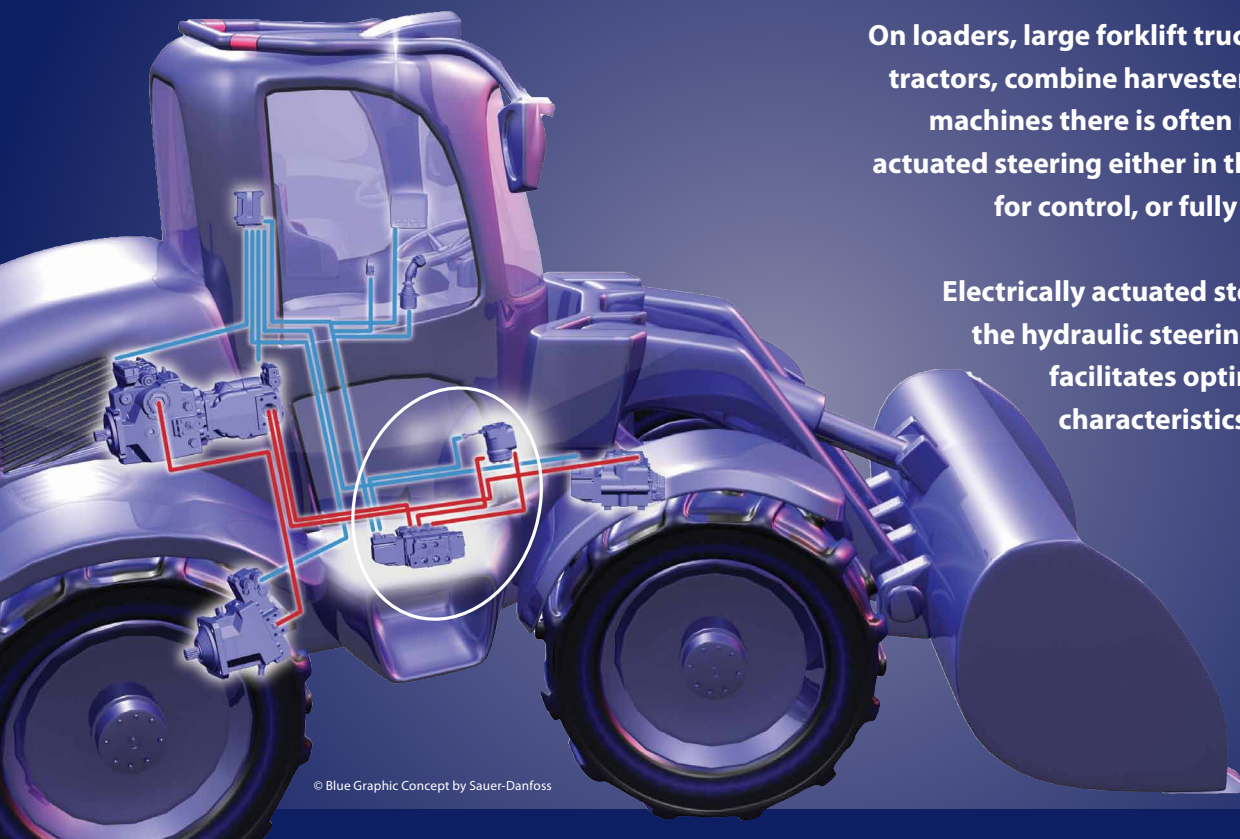
Steering systems with EHPS can gain approval for road use with active electrical steering, due to the fact that active hydraulic backup is always available in the system. EHPS is available with built-in valve functions: priority, pilot pressure relief, shock, suction, and/or check valves. When vehicles operate only off-road, full "steer by wire" systems (without active hydraulic backup) are permissible. Here, steering can be achieved solely by joystick. Sauer-Danfoss PVG 32 proportional valves can be used for this application.



Low speed driving (1-2 rev.)



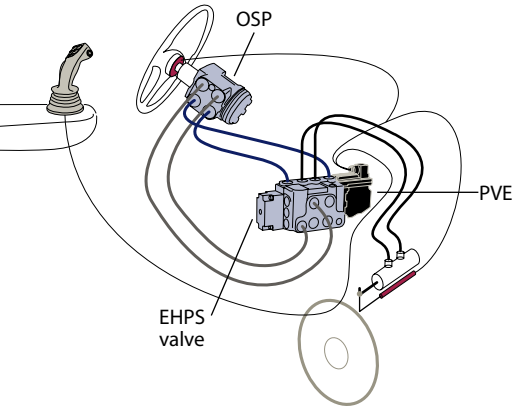
High speed driving (5-6 rev.)



**On loaders, large forklift trucks, dumpers, heavy tractors, combine harvesters, and other similar machines there is often need for electrically actuated steering either in the form of a joystick for control, or fully automatic steering.**

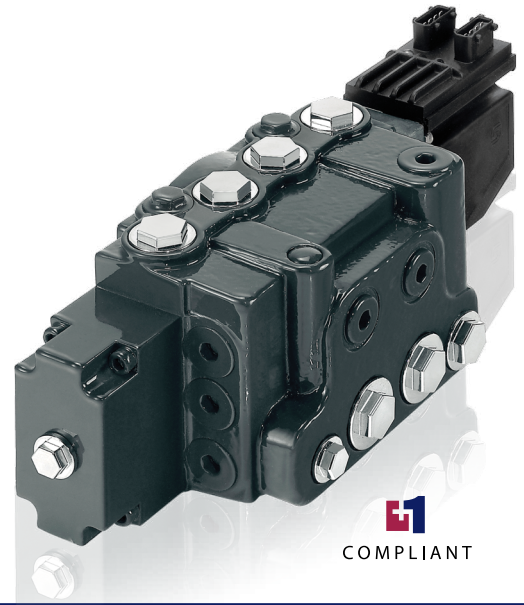
**Electrically actuated steering supplements the hydraulic steering wheel control and facilitates optimisation of steering characteristics to cater for driving conditions.**

**In other words, it increases vehicle productivity and improves driver comfort.**



### General Characteristics:

- Low noise level in cab
- Steering pressure up to 250 bar
- Improved manual steering characteristics
- Reduced side acceleration forces on vehicles with articulated steering
- Possibility of integrated priority valve
- Possibility of flanged-on proportional valves (PVG 32).

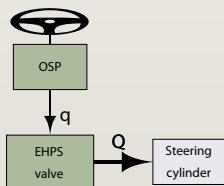


## EHPS Systems are Available in Three Versions

### EHPS Type 0:

A purely hydraulic steering system with the EHPS valve acting as flow amplifier. The characteristics of this system are low noise level in the cab (low pressure and flow in the OSP steering unit), high steering pressure (max. 250 bar), steering unit displacement optimised for manual steering and reduction of side acceleration on vehicles with articulated steering. It is simple to retrofit an electric activation unit (PVE) to extend the system into a Type 1.

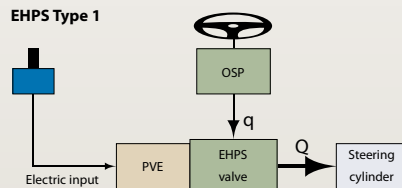
#### EHPS Type 0



### EHPS Type 1:

EHPS valve equipped with an electric activation unit (PVE). Possibility of hydraulic steering with OSP and electrical steering using a signal from, for example, a joystick or a mini steering wheel. The valve gives highest priority to the hydraulic steering.

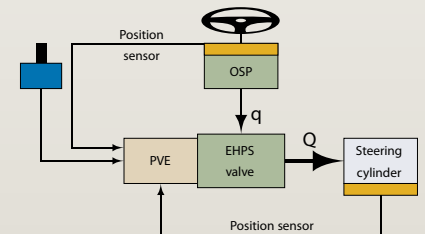
#### EHPS Type 1



### EHPS Type 2:

Microcontroller with steering software integrated into the electric actuator. The use of a steering wheel sensor gives steer by wire (steering with an electric signal) with active hydraulic backup. The safety system in the integrated microcontroller gives steering with an electrical signal a very high level of safety. The characteristics are variable steering ratio on the steering wheel, elimination of steering wheel drift and the possibility of communicating with automatic steering.

#### EHPS Type 2







**Sauer-Danfoss** is a global manufacturer and supplier of high-quality hydraulic and electronic components. We specialize in providing state-of-the-art technology and solutions that excel in the harsh operating conditions of the mobile off-highway market. Building on our extensive applications expertise, we work closely with our customers to ensure exceptional performance for a broad range of off-highway vehicles. We help OEMs around the world speed up system development, reduce costs and bring vehicles to market faster.

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- Closed Circuit Axial Piston Pumps and Motors
- Displays
- Electrohydraulic Power Steering
- Electrohydraulics
- Hydraulic Power Steering
- Integrated Systems
- Joysticks and Control Handles
- Microcontrollers and Software
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- Orbital Motors
- PLUS+1™ GUIDE
- Proportional Valves
- Sensors
- Steering
- Transit Mixer Drives

Wherever off-highway vehicles are at work, so is Sauer-Danfoss.

We offer expert worldwide support for our customers, ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide comprehensive global service for all of our components.

**Go to [www.sauer-danfoss.com](http://www.sauer-danfoss.com) for further product information.**

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