

Data Sheet

Electrohydraulic steering

OSPE



Danfoss is proud to present the next coming product addition to our range of industry leading products for electrohydraulic steering – the OSPE. This product will allow direct electric interface for GPS, row or laser auto-steering systems, as well as Joystick, or electric mini steering wheel in the agriculture and construction market.

The OSPE incorporates all the best features of our existing OSP and EH valve range as well as several new and unique additional features. The OSPE represents a new generation of electrohydraulic steering products characterized by a high level of integration and a significantly increased amount of integrated safety features.

The Danfoss OSPE is designed to allow a simpler architecture for our customers to comply with existing steering regulation and safety demands, when introducing electrohydraulic steering systems.

Furthermore the OSPE will offer the possibility to enhance the steering feel, and approach steering characteristics known from automotive vehicles. Steering behavior can be optimized to suit vehicle specific conditions for both on road and off road operation.



Features

- Selectable “reaction” – “Non-reaction” steering modes.
 - Improved reaction feel, give vehicles more automotive like steering feel.
 - Eliminates an external blocking valve (EH-steering mode).
 - Safe design.
- Open Center steering system.
 - No external valves needed
- Load Sensing steering system.
 - Integrated LS resolver (PVFC-valve)
- Numerous configurations available.
- A true “Safe State”
 - Eliminates all effect caused by any part of the electronic or EH-valve portion.
 - Makes it easier to get SBW features homologated.
- Integrated priority-valve.
 - Possibility to simplify hydraulic architecture.
- Robust one piece casting.
 - Compact design, to fit tight areas.
 - Eliminates potential leak path.
 - Single design, development and test source.
- Optimized for automatic steering.
 - TruPath.
 - Applicable to any GPS steering systems.
- Variable steering ratio
 - Adjust steering aggressiveness to the current vehicle work situation (in conjunction with Danfoss SASA steering wheel sensor and PVED CL actuator (non-reaction mode only)).

Comprehensive technical literature online
at powersolutions.danfoss.com

Technical data

Valve housing ports	Metric or UNF
Spool valve sizes	Steered flow: 12, 20 or 40 l/min [3.17, 5.28 or 10.57 US gal/min]
OSP displacement	Up to 440 cm ³ /rev [26.85 in ³ /rev]
Pressure	P: 210 bar [3045 psi]; L,R: 280 bar [4061 psi]; T: 25 bar [363 psi]
Pilot dump solenoid	12 or 24 V 16 W
Connectors	DEUTSCH or AMP JPT
Electrical actuators (PVE)	Supply voltage Vbat range: 9 - 32 V; Power consumption: 7 - 10 W; Enclosure grade: IP 66
Analogue PVES	Ratio metric in relation to Vbat. Neutral at 50% of Vbat
Digital PVED-CL	CAN-bus ISO 11783 Autosteer curvature commands; CAN 2.0B with J 1934 proprietary protocol; Analogue angle feedback input 0 - 5 V; Analogue joystick input 0 - 5 V; (see also PVED-CL and PVES technical information)
Weight	Approx. 14 kg

Dimensions

