ENGINEERING
TOMORROW

Efficient performance – **precise** operation.
PVG proportional valves

Modular
system design

enables customization for your varying vehicle control needs

powersolutions.danfoss.com

Flexible, efficient, and global

Our PVG load-independent proportional valve technology aims to provide you with the best end-user control, meeting requirements for high productivity with optimum safety and minimum emissions.

The PVG portfolio has grown with our experience and understanding of customer businesses. Today, our proven technology goes into customized solutions with maximum user comfort.

Flexible system design
The modular design of our PVG range accommodates future control variations and provides an almost infinite number of configurations.

As a result, we are able to offer you integrated function solutions that are perfectly customized for your vehicle.

Because all PVG parts are interchangeable, valve specifications can be easily altered to accommodate new functions and meet rapidly changing market needs.

High-performance actuators
We offer a full range of electronic valve actuators, from simple on/off solutions to state-of-the-art CAN bus communication.

Our high-performance PVED digital actuators are specifically designed for J1939/ISOBUS Protocol and CANopen systems and facilitate compliance with Functional Safety legislation.

Overall, that means spending less time and money on your system qualification and vehicle certification.

Global manufacturing and support
After-sales support and product service are easily accessed through our network of sales companies, distributors, appointed partners and authorized service centers.

Draw on our robust components, application know-how and engineering capabilities, and we will ensure your hydraulic system is well prepared for tomorrow's demands.

Talk to your local Danfoss representative about how to increase your overall vehicle efficiency, reduce costs and improve productivity.

The PVG family

- **Modular valve designs for flexible systems**
- **Proven PVE actuator technology for easy set-up and installation**
- **SIL 2 certified valve actuator to help comply with Functional Safety standards**
- **Precision operation with load-independent flow control**
- **Load-sensing for high efficiency and low energy consumption**

Integrated solutions – efficient performance

Precision and productivity in a customized stack
Using our PVG design toolbox, we can devise a valve stack for any set of work and control tasks – incorporating both simple load-sensing and advanced electrically controlled load-independent proportional valves. Load-sensing technology also means that wear and tear on other components in the system is reduced, helping to extend vehicle life. No matter how the valves are combined, you can count on seamless integration.

Low to high-flow needs
PVG valves cover the full range of low to high-flow needs, including a post-compensated flow option. Always robust and reliable, their ability to accommodate simple and complex functionalities – even in the same stack – has established a new standard for customized machine system design, securing precise operation and improved productivity. Providing best-in-class control, our high-quality valves are built to last.

Our integrated solutions bring intelligent control and diagnostics to your vehicle.

Maximum output

Ease of customization is crucial in the face of today's tough environmental regulations. This is where the modular flexibility of the PVG portfolio comes into its own.

With less engine power available to perform the same tasks, you need maximum productivity from the available hydraulic flow. The ability of the PVG 32 to reduce heat generation, for example, is key to increased efficiency and power density.

The PVG 100, our post-compensated flow sharing valve, lowers the oil flow to all basic work functions in response to a limited supply from the pump. In addition to enabling a smaller pump size, flow sharing helps prevent power wastage – optimizing productivity when less power is available.

Choose a PLUS+1® Compliant, Plug and Perform valve solution for precise operation.

Industry-leading functionality

- Load-independent flow control for precise operation and improved productivity
- Load-sensing technology for higher efficiency and safety, reduced energy consumption and a longer system life

Modular valve design

- Seamless integration in compact valve stacks
- Flow sharing for maximum controllability and safety
- Full range of valve actuators for intelligent, electronic valve control

From analog to digital valve control

PVE – still leading the market
Four decades after we launched the first electrical actuators on the market, our PVE actuator portfolio has grown to include more than 50 variants.

Today, our experience and flexible solutions meet all your needs for intelligent, electronically controlled valve solutions.

Full compliance with our PLUS+1® GUIDE electronic control platform gives you the benefit of easy configuration and installation and a shorter time to market.

PVED Actuators – efficient performance and advanced diagnostics
Our PVED-CC and PVED-CX advanced digital actuators are designed for J1939/ISOBUS Protocol and CAN-open systems. Their advanced settings raise machine performance to the highest level of excellence.

In addition to analog position control circuits, both actuators feature a digital circuit that enables flow control via CAN communication. User-selectable progressive flow characteristics and advanced diagnostics secure optimal control and safety.

The SIL 2 certified PVED-CX also contributes to faster, more cost-efficient system qualification and vehicle certification in accordance with recognized international safety standards.

Efficiency and Functional Safety

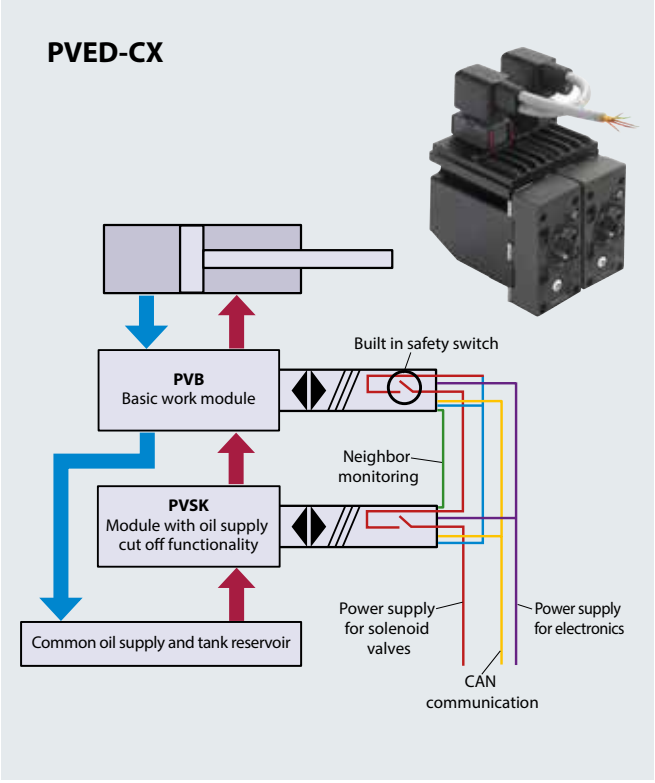
Functional Safety at work
High safety standards and low emissions are buzzwords on the mobile machine market. We accommodate both challenges in our designs.

To support your compliance with the European Machinery Directive (2006/42/EC) and related safety standards, we can offer our SIL 2 certified PVED-CX digital actuator and oil supply cut-off module PVSK. In the event of a malfunction, the PVED-CX and PVSK can shut down oil flow to the relevant work function – quickly bringing it to a safe state without influencing other functions.

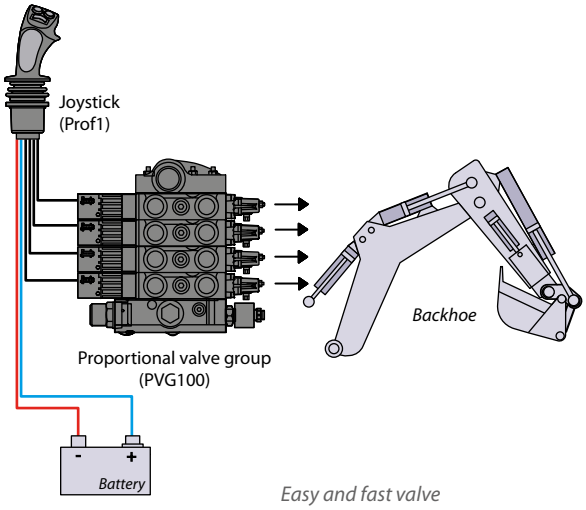
Our Functional Safety support team is ready to help you apply the highest safety standards to your vehicle.

Learn more about our Functional Safety support package at **www.powersolutions.danfoss.com/FunctionalSafety.**

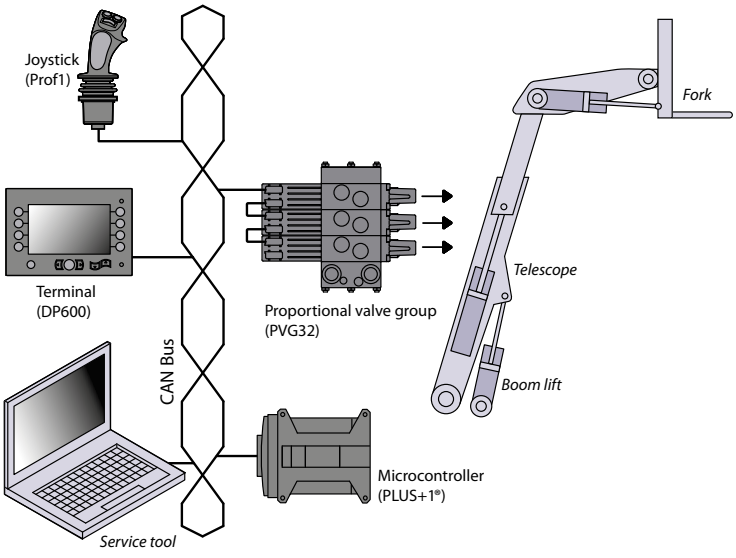
Efficiency with less emissions
Our load-sensing technology goes a long way towards meeting the demands of the Tier IV/Stage IV engine emissions regulations by minimizing hydraulic power losses – improving vehicle efficiency and saving energy in the process. Through our vehicle-by-vehicle approach, we have assessed and analyzed the opportunities to integrate multiple functions in a compact valve package and make the most of your hydraulic flow.



Learn more about emissions solutions at **www.powersolutions.danfoss.com/Emissions**.



Easy and fast valve configuration and user-friendly electrical actuator interface.



From simple configurations to advanced digital systems.

ENGINEERING
TOMORROW

About
Danfoss Power Solutions

Danfoss Power Solutions 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 you 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.

Danfoss Power Solutions – your strongest partner in mobile hydraulics.

Products we offer:

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

Wherever off-highway vehicles are at work, so is Danfoss Power Solutions. We offer you expert worldwide support for ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide you with comprehensive global service for all of our components.

Go to www.powersolutions.danfoss.com for further product information.

Danfoss Power Solutions (US) Company
2800 East 13th Street
Ames, IA 50010, USA
Phone: +1 515 239 6000

Danfoss Power Solutions ApS
Nordborgvej 81
DK-6430 Nordborg, Denmark
Phone: +45 7488 2222

Danfoss Power Solutions GmbH & Co. OHG
Krokamp 35
D-24539 Neumünster, Germany
Phone: +49 4321 871 0

Danfoss Power Solutions Trading (Shanghai) Co. Ltd.
Building #22, No. 1000 Jin Hai Rd
Jin Qiao, Pudong New District
Shanghai, China 201206
Phone: +86 21 3418 5200

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without changes being necessary in specifications already agreed.
All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

AD152886484752en-000302 Sep 2014