ENGINEERING TOMORROW



Using **technology** to drive **productivity**

Series 45 axial piston pumps with electronic torque limiting control



Engineering more profit







22%
more productivity vs. traditional mechanical torque controls.

Stay ahead of customer expectations

The rate of technological change is increasing quickly. The user of today's heavy equipment demands more intelligent machines that use technology to improve productivity and efficiency.

Not only does the Danfoss Series 45 PCLS pump with ETL control meet the trends of today and tomorrow, it offers unsurpassed flexibility and speed to market that can give your products a competitive advantage as others scramble to play catch-up.

To learn more about Danfoss ETL technology, visit www.danfoss.com/powersolutions





Engine speed signal sent to PLUS+1° microcontroller. Plug and perform technology allows the CAN bus signal to be used for engine speed monitoring.



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Simple integration means immediate value

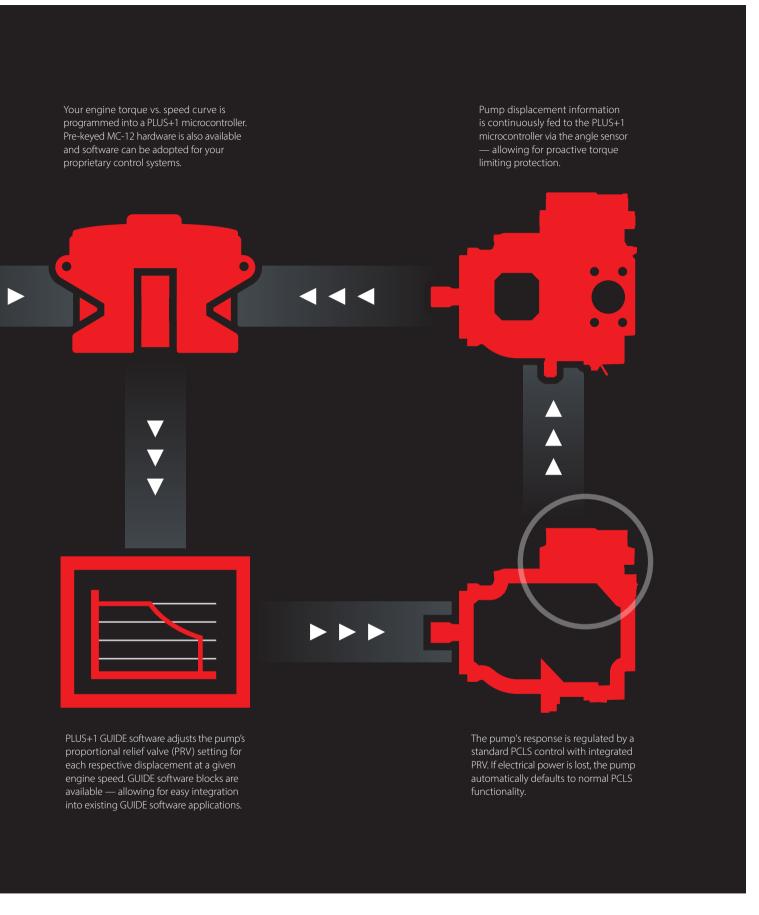
Easy software integration

- Pre-programmed hardware for easy system setup
- Prove out, demo, and fine-tune your solution with ease
- GUIDE blocks are easily integrated into PLUS+1 systems
- A flexible solution that readily integrates into existing on-board electronics

Electrical hardware

- 12 V and 24 V configurations
- Angle sensor and proven PCLS control with integrated proportional relief valve (PRV)
- Continues to operate the work function system as a PCLS pump, even if the electrical signal is lost

ETL is available on 45 cc – 147 cc pumps in 12 V and 24 V configurations



Engineered for use in both new and existing equipment

Bring enhanced, state-of-the-art electronics to pumps of any size with the Danfoss ETL control. You won't need to resize, reroute or rework any other part or system when you take advantage of our pre-keyed microcontrollers. Just drop it in, fine-tune the parameters — a process that Danfoss has reduced from days to just hours — and you're ready to start experiencing impressive benefits.







The Danfoss ETL control can be fitted into any existing pressure compensated/load sensing or mechanical torque control (MTC) system. Unlike other PCLS or MTC systems, the Danfoss solution is not limited by traditional sizing or engine torque constraints, but can operate in a full range of pump displacement and engine torque curves.

FULL SYSTEM INTEGRATION



The power of flexibility

Telematics enabled, Danfoss Series 45 axial piston pumps with electronic torque limiting (ETL) technology allow for vital data collection and greater connectivity to your machines. Lower maintenance costs and increase uptime with predictive maintenance and remote service. These are information-driven capabilities unavailable in many competing pumps.

Danfoss Telematics offers easy-to-develop custom applications. Our PLUS+1 GUIDE (graphical user integrated development environment) system uses drag-and-drop editing making application development simple — even for programmers lacking formal development training. Now OEMs of any size have the ability to compete and win with superior product benefits that enhance their brand through built-in telematics capabilities.



Danfoss ETL control is easy to integrate into new or existing systems. To find out how easy it can be for you, contact your Danfoss representative at **www.danfoss.com/powersolutions**.







About

Danfoss Power Solutions

Danfoss Power Solutions is a global manufacturer and supplier of high-quality hydraulic and electric 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 as well as the marine sector. Building on our extensive applications expertise, we work closely with you to ensure exceptional performance for a broad range of applications. We help you and other customers around the world speed up system development, reduce costs and bring vehicles and vessels to market faster.

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.

Danfoss Power Solutions – your strongest partner in mobile hydraulics and mobile electrification.

Products we offer:

- · DCV directional control valves
- · Electric converters
- · Electric machines
- · Electric motors
- Hydrostatic motors
- Hydrostatic pumps
- Orbital motors
- PLUS+1® controllers
- PLUS+1® displays

- PLUS+1® joysticks and pedals
- · PLUS+1® operator interfaces
- PLUS+1® sensors
- PLUS+1® software services, support and training
- PLUS+1® software
- · Position controls and sensors
- PVG proportional valves
- · Steering components and systems
- Telematics

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

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