

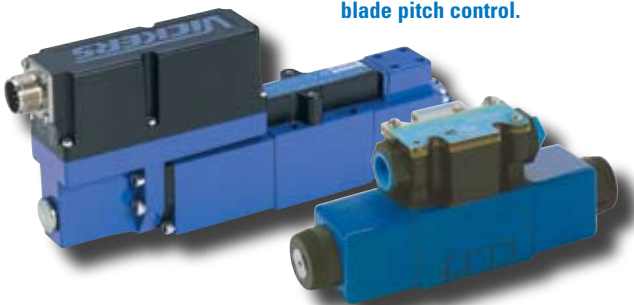


Wind Turbine Control Valves

Solutions Focus

Eaton Control Valves lead the way in Blade Pitch Control

Eaton's Vickers™ KB Valve is the #1 valve choice for turbine blade pitch control.



KBFDG5V with CANBUS



Features

- Integrated Amplifiers Mean **"Plug and Play"**
- IP 65 & 67 Environmental Protection Rating (**Best-In-Class**) - Excellent Reliability in Harsh Environment
- Vibration & Shock Resistance
- CanOpen Bus Communication Option - **Easy Diagnostics**
- Complete Size Range
- Three Performance Levels - Standard, High and Servo

With the world's non-renewable resources, such as gas and oil, becoming rapidly depleted, alternative methods of power generation are assuming an ever-increasing importance. Wind energy is the fastest growing renewable energy resource in the world. It is free, sustainable and inexhaustible.

Eaton's Hydraulics Operations is proud to have been amongst the first of the pioneering industrial companies who have supported these aims over many years and who continue to make a significant commitment to provide the key components and systems required by wind energy projects around the world.

To give a smooth and consistent power output, Wind Turbine Generator (WTGs) manufacturers use hydraulics to position the "pitch" of the rotor blade in such a way as to "remove" or "waste" the extra energy that is being created by excessive wind speed.

The KB range of proportional flow control valves from Eaton's Hydraulics Operations has been the chosen valve of the industry to perform blade "pitch motion control" and is installed in over 20,000 turbines globally. The KB proportional valve, along with the power control electronics, allows accurate, high dynamic control of the blade pitch to be achieved.

Built to Last in Harsh Environments

For durability, you can't beat a KB proportional valve. The amplifier is housed in a durable metal enclosure, sealed against environmental contaminants. They are reliable, rugged and provide easy access for test equipment.

You can trust Eaton Vicker's KB proportional valves to do the job as specified and perform consistently and reliably for years.

Screw-In Cartridge Valves

Vickers screw-in cartridge valves provide many advantages over traditional hydraulic valves. While offering the same control functions as traditional hydraulic valves, screw-in cartridge valves are compact, reliable and economical.

The concept of combining multiple cartridge valves in a common manifold offers both the mobile and industrial user substantial cost-saving advantages that cannot be achieved with traditional valving.

Features and Benefits

Here are some of the advantages of Eaton's Vickers cartridge valves:

- Response times and efficiency gains, by eliminating many of the hoses, tubes and fittings necessary in traditional installations
- Fewer potential leakage points than with conventional valves ensuring cleaner, safer application environments
- Compact and neat assemblies for economy of space and weight
- Increased ability to withstand vibration, giving optimum machine reliability and performance
- Multiple mounting configurations offers maximum design flexibility
- Greater contamination tolerance
- Faster cycle times
- Lower noise levels
- Faster on-site servicing and troubleshooting
- Resistance to fluid contamination
- Hardened ground steel operating parts



Modular Circuit Designs

Modular Circuit Designs (MCDs) are valve packages containing combinations of screw-in cartridge valves in a manifold block. The package is dedicated to the hydraulic control of a particular application. MCDs can be as extensive as necessary to meet the most complex applications or as simple as two or three cartridges in a basic single manifold.

All MCD packages are designed and manufactured by Eaton to customer specifications. Manifolds can be designed to hold the requisite cartridges, pilot pistons, orifice discs, or any other components needed for individual applications and integrated with other Eaton components. Standard cavity tooling provides precision machining of standard cartridge cavities.

Global Support

Eaton's world-wide distribution and service network is quick, reliable, and responsive to the customer's needs. Our customers can rest assured that no matter where they're located, Eaton will be there with unrivaled products and technical expertise.

Technical Support

Quality products are only part of Eaton's commitment to our customers. We also provide advisory, planning and design services specifically geared to your application and backed by on-time delivery.

Eaton
Hydraulics Operations USA
14615 Lone Oak Road
Eden Prairie, MN 55344
USA
Tel: 952-937-9800
Fax: 952-294-7722
www.hydraulics.eaton.com

Eaton
Hydraulics Operations Europe
Route de la Longeraie 7
1110 Morges
Switzerland
Tel: +41 (0) 21 811 4600
Fax: +41 (0) 21 811 4601

Eaton
Hydraulic Operations Asia Pacific
11th Floor Hong Kong New
World Tower
300 Huaihai Zhong Road
Shanghai 200021
China
Tel: 86-21-6387-9988
Fax: 86-21-6335-3912

