

Press Release

Control block for winches Modular design with exceptional safety features

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For Immediate Use



Winches are used for many applications on vessels both large and small, such as anchor hoisting, mooring of the vessel, and subsequent holding of the ship against the quay. Bosch Rexroth now introduces the HIWCB, a control block developed specifically for high-pressure hydraulic winches, specially intended for deck mounting, and with a modular design that enables interoperability with almost any type of winch.

The new control blocks for high-pressure hydraulic marine winches build on the developments underlying our existing control blocks. What sets them apart, is that they are entirely assembled from standard components. In other words: because they employ proven techniques and technologies, reliability is guaranteed. This is further underlined by the fact that these blocks come from a production line which is also used to manufacture products for the mobile industry. All components are carefully documented, and parameters such as tightening torques are measured, evaluated and documented. The incidence of

Contact for Journalists:
Bosch Rexroth Corporation
Susan Strauss
2315 City Line Road
Bethlehem, PA 18017
Telephone (610) 694-8352
Fax (610) 954-8670
susan.strauss@boschrexroth-us.com

Phase 3 Marketing & Communications
Laura Craft
Eden Estabrook
1435 West Morehead St., Suite 200
Charlotte, NC 28208
Telephone (704) 729-0146 x225
Laura.Craft@phase3mc.com
Eden.Estabrook@phase3mc.com

component failure in the field is literally reduced to a minimum by this approach. And of course, standard components are cheaper than non-standard variants.

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Modular design

What makes the HICWB unique is its modular design, which enables it to be combined with virtually any winch. This enables the vessel's owner to hold fewer spare control blocks, and offers more options for dealing with changes. This is an improvement over control blocks designed specifically for a certain application or winch. Moreover, the new blocks can be combined with both axial and radial piston motors, and with their light weight of just 44 kg, they can even be directly motor-mounted.

In addition, each complete control block undergoes a specific treatment for maximum resistance to the extreme conditions offshore. The blocks themselves are galvanized and chrome-plated, and stainless steel is used for external moving parts such as the control lever and bushes. All adjustment elements have weatherproof covers. And as a final protective barrier, a triple coating is applied in layers of each 80 micron thickness.

Features

Besides the required standard functions like counter balance, relief and anti-cavitation valves, these lightweight and compact control blocks offer a range of additional features. To start with, they can proportionally control the winches or capstans used to raise or lower the anchor. The so called anchor break off function of the block, in combination with a variable displacement motor, enables the anchor to be broken free in a controlled manner. A three position hand lever valve is used for this function: in the break off mode, up to 1.5 times the maximum rated load is permitted. The second position of the valve allows the operator to select minimum speed (which can be pre-set) at maximum rated load, followed by maximum speed with minimum load at the third valve position.

A second important feature of the control block lies in the ability to maintain a constant tension on the mooring lines when the vessel is berthed. When the mooring lines slacken due to vertical movement of the vessel, e.g. during tide, wave motion or loading/unloading, the winches will wind in to maintain line tension. When the lines are tightened by vertical movement in the opposite direction, then of course the winches will pay out line. The system's high

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responsiveness means that tension in the lines remains constant, avoiding overload and shock forces, and keeping the vessel firmly and securely moored against the quay.

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Safety

Lastly, a number of safety features are integrated into the control blocks. An extreme situation can potentially occur when the hydraulic supply is cut off (for whatever reason) to a winch holding a suspended load, and without a brake applied. Oil can then leak via the motor drain circuit back to the tank, resulting in insufficient hydraulic pressure to continue holding the load. Ultimately, the motor will cavitate, and the load will drop uncontrollably.

To ensure a safe situation even in cases such as this, an extra valve is incorporated that responds to falling pressure by holding the oil in the motor, and blocking leakage to the tank. The motor will slow down, but will not cavitate, and the holding power remains assured.

Compact

Integrating the various features into the control block has made it possible to assemble a block that is highly compact. Not only does it require minimal space on deck, it also simplifies the integration of functionality in the installation, since it requires considerably less piping, and with fewer external couplings, the risk of leakage is even further reduced. This approach also drives down maintenance costs over the long term.

Finally, for all ship owners and builders there is the significant benefit of Bosch Rexroth's global service network, offering the capacity and expertise needed to quickly and efficiently service or repair marine installations anywhere in the world.

About Bosch Rexroth

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, and Factory Automation. With its intelligent components, customized system solutions and services, Bosch Rexroth is creating the necessary environment for fully connected applications.

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Bosch Rexroth offers its customers hydraulics, electric drives and controls, gear technology, and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, more than 30,500 associates generated sales revenue of approximately 5.5 billion euros (\$6.2 billion) in 2017.

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To learn more, please visit www.boschrexroth-us.com

About Bosch

Having established a regional presence in 1906 in North America, the Bosch Group employs nearly 34,500 associates in more than 100 locations, as of December 31, 2017. In 2017 Bosch generated consolidated sales of \$13.7 billion in the U.S., Canada and Mexico. For more information, visit twitter.com/boschusa, twitter.com/boschmexico and www.bosch.ca.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,000 associates worldwide (as of December 31, 2017). The company generated sales of 78.1 billion euros (\$88.2 billion) in 2017. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 125 locations across the globe, Bosch employs some 64,500 associates in research and development.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, [www.twitter.com/BoschPresse](https://twitter.com/BoschPresse).

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