High-performance shaft couplings, torque limiters and safety brakes for rough environments

Mayr offers a broad portfolio of safety clutches and brakes. The product range includes disk pack couplings, shaft couplings and torque limiters that have been optimised for use in the maritime sector.

Whether in the drives of ship propellers, mobile units such as drilling platforms for oil and gas extraction, or in tidal power plants, the applications for disk pack couplings in the maritime and offshore industries are diverse. For example, if the main drive of a ship’s propeller is an electric motor, spring steel disk pack couplings such as the ROBA®-DS by Mayr provide clear advantages. The company says that these couplings are robust, reliable and temperature-resistant and are therefore particularly suitable for use in extreme environmental conditions at sea.

Furthermore, the ROBA®-DS couplings are wear-free, thereby reducing the maintenance effort to a minimum. Like the previous model ROBA®-D, Mayr has also received type approval from DNV GL for the even more compact and high performance density ROBA®-DS all-steel coupling up to construction size 2200. This certificate confirms the high quality and reliability of the coupling with customary safe dimensioning and design, and ensures the maximum possible operating and functional safety for use at sea.

Tailor-made, certified overload protection
In addition to shaft couplings, Mayr also provides application-optimised torque limiters.
for use at sea which have also been certified by DNV GL or by American Bureau of Shipping (ABS). As a result, the EAS element clutches, for example, reliably protect against damage due to overload, amongst other things in azimuth thrusters (propeller pods) on drilling ships or drives on drilling platforms. In order to integrate an overload coupling into the drive line correctly, the application must generally be considered as a complete component. In particular, in applications where difficult environmental conditions are likely, such as at sea, Mayr develops individual, tailor-made solutions to protect against overload, and has these products certified by recognised inspection authorities. The company can rely on many years of experience, extensive know-how in development and design, and on state-of-the-art testing possibilities for this purpose.

Robust outdoor safety brakes for harbour crane systems

In many large harbours around the globe, ROBA-stop-S safety brakes prove their worth in the travel and hoist drives of harbour cranes. These brakes have been developed especially for outdoor applications in extreme ambient conditions, and have been well-received by customers through their simple assembly and handling as well as long maintenance intervals. The brakes in the travel and hoist drives of harbour cranes fulfil two functions. On the one hand, they function in normal operation as holding brakes. This means they have to hold the system safely in the approached position once the drives have been switched off – even in strong winds during a storm. On the other hand, in critical operating situations, during emergency stops or power failure, the ROBA-stop-S safety brakes are dimensioned to absorb peaks in which extremely high friction loads may occur. For example, this is the case when loads moving downwards by hoist drives have to be braked whilst moving at full speed.

Protected against harsh conditions

With the ROBA-stop-S, Mayr has developed a safety brake especially for critical ambient conditions and outdoor applications. It complies with Protection IP 67 and is therefore completely dust-tight and water-proof. The compact and solid housing with an integrated terminal box and without any pockets and grooves ensures that the brake is resistant to damage caused by external influences. In addition, the high-quality primer on the brake body, the chrome or nickel coating of the inner components and the manufacture in rustproof stainless steel provide permanent protection against corrosion. A microswitch for release monitoring is integrated into the terminal box and is thus protected effectively, which guarantees that the motor only starts up when the brake is released. This terminal box also features sufficient space to hold a rectifier for the brake’s magnetic coil. In addition, a further microswitch can be integrated which inspects the wear on the friction linings.

On the ROBA-stop-S safety brake, it is possible to mount a speedometer on the brake body. If no speedometer is used, the coil carrier is sealed with a cover. If the brake is used at temperatures below zero, or in conditions of high humidity, an anti-condensation heating system is recommended. This system prevents the possibility of condensation forming within the brake interior.

ABOUT MAYR

The family-run company Mayr power transmission, which was founded in 1897, is a leading manufacturer of safety brakes, torque limiters and shaft couplings. These products are primarily designed for application in electrically-driven machines and systems. Currently, approximately 700 employees work at the headquarters in Mauerstetten. Worldwide, Mayr employs approximately 1,200 employees. www.mayr.com

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