

# Wellhead energy storage deviation adjustment rapid sealing device

Does a subsea wellhead connector seal ring increase preload force?

3. A performance test device was constructed to evaluate the metal seal ring of the subsea wellhead connector and verify sealing performance. The test results show an increase in the contact width in conjunction with a rise in preload force, which is approximately linear.

Does subsea wellhead connector have radial temperature distribution?

A theoretical formula of radial temperature distribution for the subsea wellhead connector was deduced. The sealing performances of the subsea wellhead connector in thermal-structural coupling field were analyzed via FEM. A metal sealing test device of the subsea wellhead connector was designed, and its sealing capacity was tested and verified.

Why do we need a new subsea wellhead sealing device?

the sealing device or reinstall a new one. This will result in a delay in normal production and an increase in development costs. Therefore, a novel subsea wellhead sealing device is designed. A finite the equivalent stress and contact stress. The research results show that as the driving block gradually

How does stress affect a wellhead sealing mechanism?

A finite element analysis model is developed to study the underwater wellhead sealing mechanism regarding the equivalent stress and contact stress. The research results show that as the driving block gradually increases from 4 mm to 12 mm, the stress of the 12 convex parts on the sealing body also increases.

What happens if a subsea wellhead seal fails?

Subsea wellhead systems are the crucial equipment for the development of oil and gas resources offshore, while the sealing device plays a vital role as the main component of the wellhead system. Once the seal fails, it is necessary to retrieve the original wellhead system and either repair the sealing device or reinstall a new one.

How does a wellhead connector work?

The axial preload force provided by the lock block was transmitted to the entire tree through the connector body, which drove the entire tree downward, compressing the metal seal ring, and sealing the subsea tree and wellhead. Mechanical analysis of the wellhead connector in preloading conditions



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