ABSTRACT

RAM-TYPE TENSIONER ASSEMBLY HAVING INTEGRAL HYDRAULIC FLUID ACCUMULATOR

The invention is directed to a tensioner assembly for providing tensile force from a floating vessel at the surface of the ocean to the blowout preventer stack, or production tree, which is connected to the wellhead at the sea floor. The tensioner assembly compensates for vessel motion induced by wave action and heave and maintains a variable tension to the riser string alleviating the potential for compression and thus buckling or failure of the riser string. The tensioner assembly of the present invention includes a cylinder, a stop tube disposed with the cylinder, and a ram slidably engaged within the stop tube. The tensioner assembly also includes at least one gas, or air, transfer tube to create a pressurized air over hydraulic fluid arrangement to provide tensile force to the tensioner assembly.

FIGURE 1