

TOP TENSIONING – PULL TYPE

Drill Floor (underside) or BOP Crane Rail Installations Available

Customised and tailored to clients drilling program

The ICON Top Tensioner System (TTS) is used to provide auxiliary support to the Blowout Preventer (BOP). This is often required when conductor sizes of 13 3/8" and smaller are used.

Jackup rig conductor tensioning systems normally tension the conductor below the wellhead. When the BOP is installed, it is only restrained by the bending strength of the conductor below and the telescopic bell nipple above. Many bell nipples are not designed to support lateral loading and bending on their telescopic joint. Stabilisation of the BOP by keeping the BOP cranes attached is not recommended since the BOP must be free to rise and fall in harmony with the conductor tensioner stroke. If the cranes remain attached, this movement could transfer the conductor tension to the BOP cranes and overload them.

The solution is to have a top tensioner system which is able to support the weight of the BOP. The TTS is attached to the handling padeyes on the top of the BOP and to the underside of the drill floor or to the spare lifting lugs on the BOP cranes. With a TTS, if the BOP becomes offcentre or has an accidental horizontal load applied to it, there is a restoring force which prevents the conductor below, or the bell nipple, from being overloaded.

Standard Features:

- **Drill floor – System A (underside) / BOP Crane Rail installation - System B**

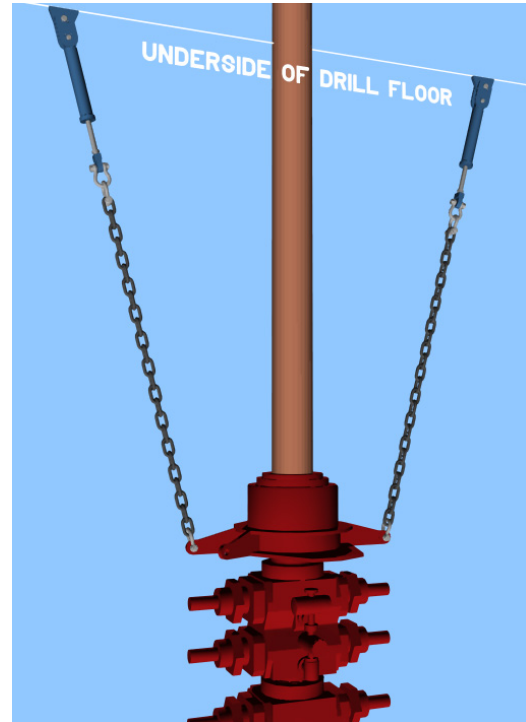
The two tensioning cylinders are designed for 50t capacity each. They have a 1m stroke which is used mainly to facilitate connection and give flexibility in the BOP position. The working stroke requirement is only 150mm typically. Durable corrosion resistant alloy rods are provided.

The connection to the BOP is normally achieved by using chain and shackles. This can be supplied to length or supplied over length and cut on the rig when the correct length is determined.

ICON has also supplied systems with 3m stroke cylinders which do not require any chain in the connection.

- **System Control**

The TTS utilises the ICON CTCU (Conductor tensioner control unit) with the benefits of being independent and extremely simple. However a system can be supplied that utilises the existing rig's hydraulic supply.



Top Tensioning Drill Floor Installation (System A)



Top Tensioning BOP Crane Installation (System B)