

## DLR300 DYNAMIC LOAD REDUCER

The TENSA Dynamic Load Reducer (DLR) is used for offshore lifts to reduce the dynamic loads associated with lifts from moving vessels. The DLR can also be used in applications such as pile driving where unexpected large loads can be applied to the crane if the pile self penetrates whilst driving. A version of the DLR300 has been used in a wave energy generation buoy to limit the loads on the buoy tether when it reaches full extension. This unit was designed for long term subsea operation.

The DLR is a damped air spring with spring rate, energy absorption and damping tailored to absorb the energy from a moving load and bring it gracefully to rest with minimal recoil. With the DLR the dynamic load factor for boat lifts can be significantly reduced, allowing the crane capacity to be increased by up to 50% depending on the sea state and load. The benefit can be determined once the specific crane design and operating parameters, load and seastate have been agreed.

Design is in accordance with API spec 2C Specification for Offshore Cranes as well as other relevant API and AS codes covering the mechanical construction. The design is certified by DnV. Purchasers may request design and fabrication approval from ABS, LR or other recognised certification organization.

The TENSA DLR is rugged and simple to set up and use.

The TENSA DLR series are modular and can be adapted quickly to different strokes and operating conditions. 2 units can be used in parallel to double the capacity. Additional accumulators can be added to further improve the operating performance for extreme conditions.

The DLR300 is a large unit used with extreme energy absorption capability for demanding applications such as piling operations or heavy lifts.



### SPECIFICATIONS (PRELIMINARY):

**SWL for on platform lifts:** 300 tonnes (Cv=1.4)

**Testing:** Load test at 420 t

**Operating Stroke:** 1.5m

**Design pressure:** 21 MPa

**Hydraulic Fluid:** water based fluid

**Overall Dimensions:**

4500 long x 1000 diameter (retracted)

6000 long x 1000 diameter (extended)

**End Connections:** to suit 300Te shackle

**Weight:** approximately 11500 kg

**Surface Treatment:** Marine coating

**Operating Temperature:** 0° C to 50° C (-10° C opt)

**Typical Crane Capacity Increase:**

The DLR changes the crane's dynamic factor (Cv). Typically it can be reduced to 1.7 or less. The DLR has maximum effect in large seastates. Typical capacity increase seen on common rig cranes in normal sea states is 35 % to 40%.

DLR 300v1