



# 600T Passive Heave Compensator

**Dimension Consultant Pte. Ltd.** was incorporated in 2012 and has been growth rapidly ever since. With the strong knowledge and experience of the team Naval Architect, we have successfully delivered various project, and developed products that solve of the most challenging problem in the industry.

We believe that each client and project is unique. We work hard to provide a custom service package that meets your requirements.

600T Passive Heave Compensator system is design and engineered by Dimension Consultants. Our PHC series are specially designed for offshore lifting operations and can be used in the Offshore Wind & Renewables Energy and the Oil & Gas industry.

We provide a range of heave compensation solutions with customized stroke and load range to suit our client specific application. Our PHC system are design accordance with API spec 2C Specification for offshore crane and approval by classification society.

## Compensator – Dimension Specification

<b>Total Height</b>	7.863m
<b>Total Length</b>	2.900m
<b>Total Width</b>	2.200m
<b>Weight</b>	20.0T (Approx.)

## Compensator – Technical Specification

<b>Operational SWL</b>	600T
<b>Test Load</b>	900T
<b>Operating Stroke <sup>[1]</sup></b>	3.0m
<b>Surface Treatment</b>	Marine Coating
<b>Operating Temperature</b>	-10-50°C
<b>Humidity</b>	95%
<b>Classification</b>	DNV/LR/ABS

**Note:**

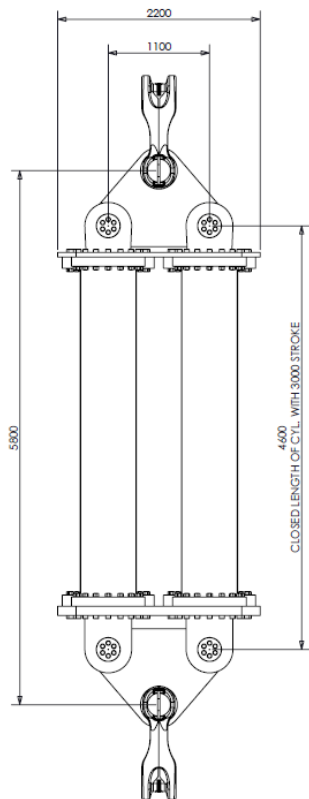
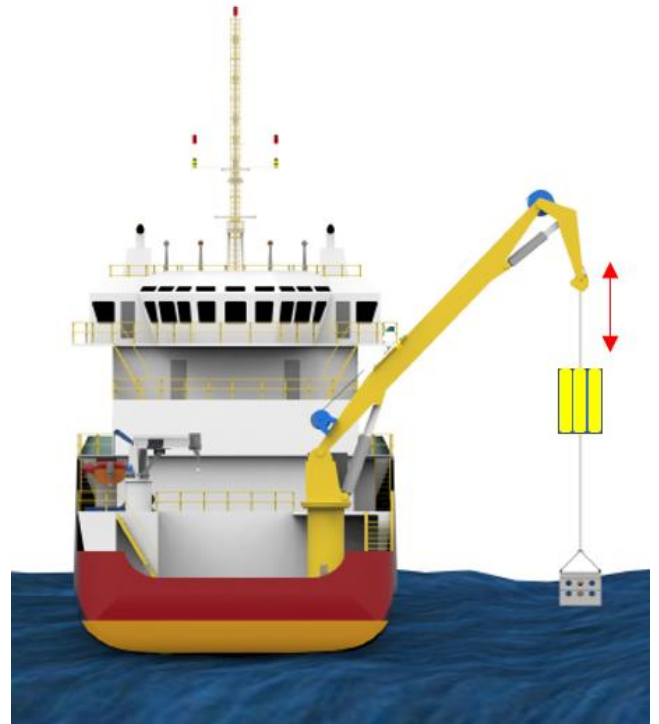
[1] – Operating stroke can be customized base on client requirements.

**KEY BENEFITS:**

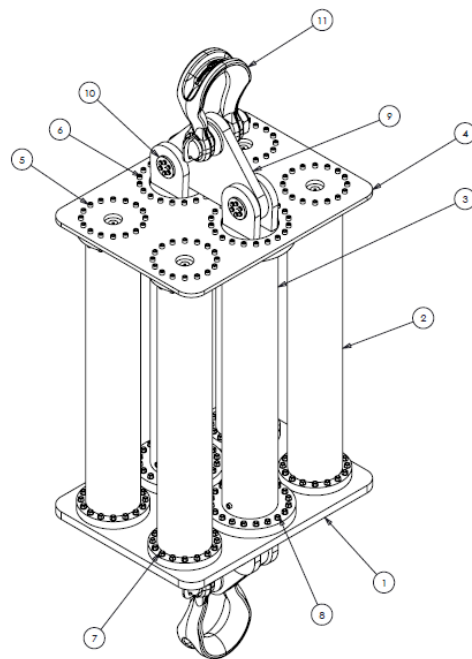
- The stroke and load range can be customizing based on client requirements.
- Spring damper system based on gas pressure and hydraulic fluid.
- Self-contained – no external connections of hoses or wires required.
  - For rental or purchase.

**ADVANTAGES:**

- No special lifting frames are required.
- No wear in crane wire and crane system.
- Increases the operational weather window.
  - Operational reliability.
  - Efficient lifting operations.
- No external energy is needed for heave compensation.



**FRONT VIEW**



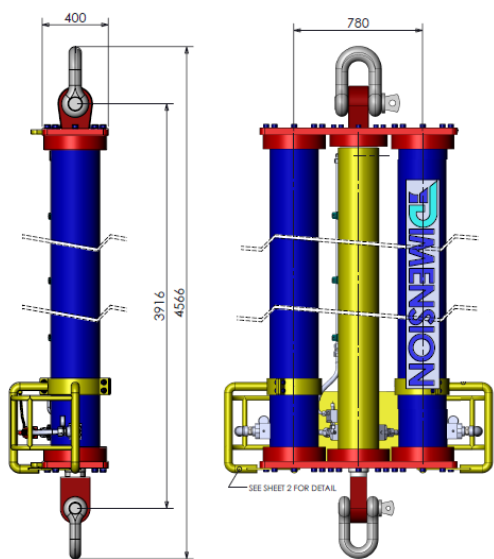
**ISOMETRIC VIEW**

*600T Passive Heave Compensator Arrangements.*

**Dimension Consultant Pte. Ltd.** has been world wide designing and building Heave Compensation System since 2012 and gained experience with a wide array of application. We provided both active and passive heave compensation system as well as combination of both.

We use to designing and build three different systems for Active Heave Compensation; secondary controlled hydraulic winches, frequency controlled electric winches and hydraulic cylinders.

Our equipment can be fitted with constant tension and passive and or active heave compensation systems to compensate the relative motion between the vessel and fixed objects such as wellheads or structures on the seabed.



### 50T Heave Compensator Lifting Link

The 50MT Passive heave compensation system is large Hydro/Pneumatic spring that dampens out the shock loading of a lift to account for ocean motions.

The Unit is designed for Lifting operations from Surface to Surface with the objective of reducing the effect of the heave motions on the load being lifted. The Unit Incorporates One (1) Hydraulic Piston Cylinder and Two (2) Piston Accumulators to achieve the correct compensation required for a load. The Accumulators are connected by two independent Hydraulic Circuits allowing set-up for two loads. The Compensator has a max stroke of 3m and Safe Working Load of 50 MT.

#### Project Specification

<b>Main Client</b>	Singapore Salvage Engineers
<b>Year of Built</b>	2018

#### Equipment Specifications

<b>Safe Working Load</b>	50.0 MT
<b>Max. Stroke</b>	3.0 m
<b>Hydraulic Fluid</b>	Mineral oil iso VG32-68 & Nitrogen
<b>Surface Treatment</b>	Marine Coating
<b>Classification</b>	DNV

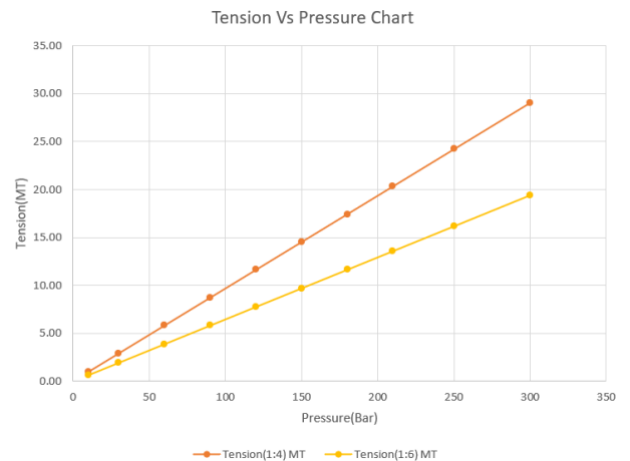
## 20T Swiftwave Tensioner – SH20H

Handling heavy loads in adverse weather conditions requires a major challenge especially when deep-water situations. The Swiftwave Tensioner offers a simple and robust solution to widen the “weather window”. Consisting of a set of moving sheaves, an MRU, and the associated controls.

20MT Line Tensioner System is intended for use as a Subsea Line Weight Compensation System for various subsea operations like Geotechnical Drilling and Testing. The System is fitted with 1 x units of Hydraulic Cylinders that are backed by a piston accumulator and Air Bank System. The current system is designed specifically for use with 36mm wire.



Project Information	
Main Client	Fugro Singapore Marine Pte. Ltd.
Year of Built	2020
20T SWL Swiftwave Tensioner - General Characteristics	
SWL on Cable	20 T
Compensation Length	3.2m Max, +/- 1.6m
Wave Period	10 sec min
Position Accuracy	10 mm
Overall Dimensions	4.2m(L) x 0.8m(W) x 0.8m (H)
Overall Weight	1.2 MT
Hydraulic Specification	
Rated Pressure	250 Bar
Rated Flow	80 l/min
IP Rating	IP 56
Offshore Rating	Sea State - 6





## 40kN Constant Tension Umbilical Winch

The Constant Tension Winch incorporates state of the art innovations in smart winches offering direct and precise control of the speed and tension in the deployment of tools down the bore hole ensuring safe and reliable operation in challenging environments.

Requiring no external components or sensors the winch is quick to setup and operate, while its minimal weight and compact dimensions allow it to be easily mobilized in containers.

The mighty 75KW motor is both quick and powerful providing the highest in class speed and tension which is intelligently managed by the PLC to deliver smooth and safe operations. The touch screen displays a host of diagnostic information and lets you control the various governing parameters while being easy and simple to operate.



### Project Information

**Main Client** Geoquip Marine AG

**Year of Built** 2015

### Constant Tension Winch - General Characteristics

**Overall Dimensions** 4.2m(L) x 2.2m(W) x 2.2m (H)

**Overall Weight** 5 MT

**Rated Pull at 1<sup>st</sup> Layer** 35 KN

**Line Speed at 1<sup>st</sup> Layer** 90 m/min

**Drum Dimensions** ID: 0.8m; OD: 1.78m; Length: 1.87m

**Drum Capacity** 2000m @ 35mm Dia

### Motor Specifications

**Rated Power** 75 kW @ 1480 rpm

**Power Supply** 415/460 V 50/60 Hz 3Ph

**Motor Cos  $\phi$**  0.79

**IP Rating** IP 56

**Offshore Rating** Sea State - 6

### Winch Control

**PLC Make** Siemens S7-1200

**User Interface** Proface HMI GP-4401

**Operations Modes** Local/Remote 50m cable



## 150MT Rated Pull Drill String Heave Compensation System

### Project Information

<b>Main Client</b>	Geoquip Marine AG
<b>Year of Built</b>	2015

### Equipment - General Characteristics

<b>Equipment Name</b>	Pull Drill Heave Compensation System
<b>Max. Dynamic Load</b>	120 MT
<b>Max. Stroke</b>	6 m
<b>System</b>	Dual Ram Semi-Active Heave Compensation
<b>Hydraulic Fluid</b>	Electro-Hydraulic
<b>Compensation Buffer</b>	Nitrogen Gas
<b>Equipment Protection</b>	Olmsted Valve Slingshot
<b>Classification or Standard</b>	Lloyd's LAME 2009





## 120MT Rated Pull Drill String Heave Compensation System

### Project Information

**Main Client** Geoquip Marine AG

**Year of Built** 2014

### Equipment - General Characteristics

**Equipment Name** Pull Drill Heave Compensation System

**Max. Dynamic Load** 120 MT

**Max. Stroke** 6 m

**System** Dual Ram Semi-Active Heave Compensation

**Hydraulic Fluid** Electro-Hydraulic

**Compensation Buffer** Nitrogen Gas

**Equipment Protection** Olmsted Valve Slingshot

**Classification or Standard** Lloyd's LAME 2009





## Pull Drill String Heave Compensation System

### Project Information

**Main Client** Geoquip Marine AG

**Year of Built** 2015

### Equipment - General Characteristics

**Equipment Name** Drill String Heave Compensation System

**Max. Dynamic Load** 30 MT

**Max. Stroke** 3.0 m

**System** Single Ram Semi-Active Heave Compensation

**Hydraulic Fluid** Electro-Hydraulic

**Compensation Buffer** Nitrogen Gas

**Equipment Protection** Olmsted Valve Slingshot

**Classification or Standard** Lloyd's LAME 2009





## Pull Drill String Heave Compensation System

### Project Information

<b>Main Client</b>	China Oilfield Services Limited (COSL)
<b>Year of Built</b>	2019

### Equipment - General Characteristics

<b>Equipment Name</b>	Drill String Compensation System
<b>Max. Stroke</b>	3.0 m
<b>Max. Static Load</b>	60 MT
<b>Max. Dynamic Load</b>	50 MT
<b>Hydraulic Fluid</b>	Electro-Hydraulic
<b>Compensation Buffer</b>	Nitrogen Gas
<b>Equipment Protection</b>	Anti-Recoil Speed Control
<b>Classification or Standard</b>	ABS