Rolling Platform

The Rolling Platform Facility is a machine for simulating ship motion, to enable the development and testing of a variety of systems or equipments for use at sea.

Deck Design

The deck design is based on that of a Type 23 Frigate, and includes the nose wheel shuttle rail, deck lock grid and lash down points for deck handling of helicopters. It can also accommodate a variety of other deck "furniture", and has hard points to support winches, pumps etc. for trials use. The Rolling Platform is designed to withstand a 15 tonne helicopter striking the deck at 3g.

Shore based testing offers a quick, cost effective method of establishing a systems fitness for purpose

The computer controlled deck can be modified to suit the customer's exact requirements

The machine operates under the control of a computer, which can drive the deck in simple harmonic motion of amplitudes up to ±15 degrees at a frequency down to 8 seconds. Sea states 1 to 6 can also be reproduced from data files that realistically simulate a ships motion.

It should be noted that the machine has only one axis of motion, namely roll, but an element of the pitch axis can be introduced by rotating the deck on the motion system. This is part of the trial set up procedure, and cannot be changed during motion of the platform. Due to the limited motion available from the machine, and lack of heave axis, it can never replace sea trials for the validation of sea worthy systems. Rather, it must be used to transfer the risk of failure from an expensive sea trial on to a relatively inexpensive shore test facility.

Specification

The following tables list the dimensions and operating envelope of the machine as currently designed and tested. Excursions outside of this envelope are not permitted until exhaustive testing has been carried out, and the effects of such excursions are analysed.

Dimensions

Top Deck Size	16m x 12m
Top Deck Weight	40 tonnes
Carriage Size	7.6m x 7.3m x 6m
Carriage Weight	60 tonnes
Power Supply	500 kVA
Payload	15 tonnes

Motion System

Max Operating Angles	All Operations	+/- 15 degrees
Max Roll Rate	Simple Harmonic	0.8 rads/sec
	Spectral Response	1.6 rads/sec

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