# TENSION COEFFICIENTS APPARATUS

## HFC16

**Year 1**
study

### Features

- Self-contained
- Wall mounted
- Direct reading of jib and tie loads using spring balances
- Demonstrates the application of tension coefficient to evaluate forces in three dimensions

### Description

The wall mounted apparatus consists of a vertical back board with two 'chain' ties, that connect to a jib. The jib and ties all incorporate direct reading spring balances to measure the internal forces. The jib and ties make a triangulated three dimensional structure.

The bottom of the jib is pivoted to the vertical back board. The 'chain' ties have vertical hooks that can be adjusted vertically and independently.

At the point where the ties and jib join, a Load hanger and weights are suspended to load the system. After loading the jib and ties all have independent adjustment to return them to there pre-loaded state.

### Related laws

- Three dimensional equilibrium
- Tension coefficients
- Jib and ties
- Compression
- Tension
- Structural Engineering
- Civil Engineering
- Resolution of Forces

### Learning capabilities

- To determine experimentally forces induced in

individual frame members

- o calculate the theoretical forces induced, using the method of tension coefficients
- To compare the experimental and theoretical results
- To repeat for other frame configurations

## Technical Specification

- Vertical back board: 406(W) x 15(W) x 521(H) mm
- Jib Scale: 0...60N range, 1N resolution
- Tie spring balance: 6kgf range, 0.1kgf resolution
- Weights set: 1 x 5N, 2 x 10N
- 1 x Load hanger

## What's in the Box?

- 1 x HFC16
- 2 x Spring balance assembly
- 1 x Load hanger
- 1 x Tape measure
- 1 x 5N; 2 x 10N
- Instruction manual
- Packing list
- Test sheet

## Weights & Dimensions

- Weight: 4 kg
- Length: 410mm
- Width: 460mm
- Height: 530mm

## Essential Services

- Sturdy vertical support

## Ordering information

To order this product, please call PA Hilton quoting the following code:
HFC16