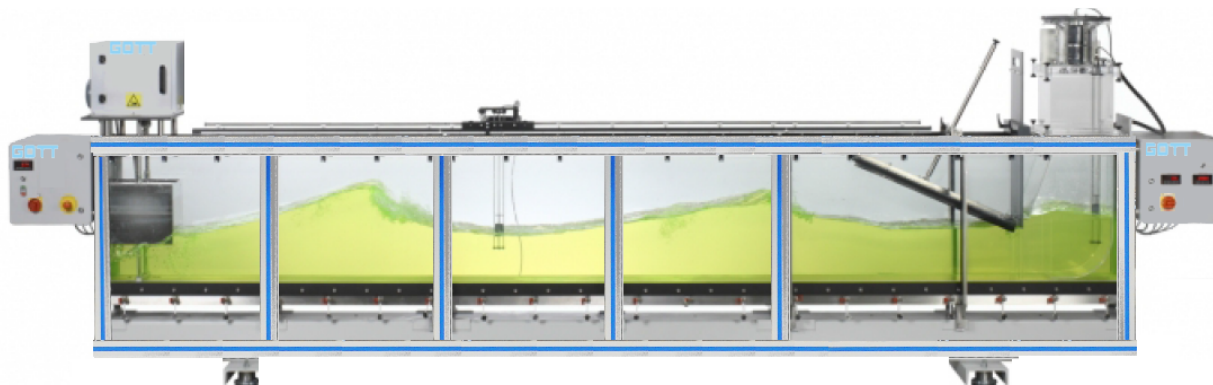


# WAVE ENERGY CONVERTER GENERATION TRAINER

Model Number : GOTT-WECGT-01



## DESCRIPTION

By using this trainer, trainees can learn about wave energy converter systems as a form of alternative energy power generation. Wave Energy systems have become more popular recently as a form of mini power generation for homes and communities that are close to water sources like sea and streams. Through this lab, students will learn about wave energy systems, how they operate, how to set one up, how they are controlled, storage and distribution of power and basic electrical power generation and protection systems.

## FEATURES

The trainer consists of a wave generator, a wave flume and the wave energy converter with turbine unit. To generate waves in the wave flume, a displacer is moved up and down by an adjustable crank drive. The height of the waves is varied by changing the lift of the displacer. The speed of the motor sets the frequency of the waves. At the end of the wave flume a baffle plate guides the waves into the wave energy converter that consist a turbine unit. The air flow generated in this way drives the Wells turbine, the flow energy is converted during both the upward and downward movement of the air. A DC motor is connected to the turbine and is used to start the turbine up. Upon reaching a set speed, this then acts as a generator and produces electricity. The water level, flow velocity can be read on digital displays on panel.

## TECHINCAL SPECIFICATIONS

### Wave Generator

- Power: approx.550W
- Displacement volume: 26,5L

### Wave Flume

- LxWxH: 5000x300x600 mm

### Wells Turbine

- Power: 0...1000mW
- Speed: 0...6000min-1
- Rotor: 6 blades
- Router  $\varnothing$  120mm, inner  $\varnothing$  80mm

### Measuring ranges

- frequency: 0...1,83Hz (
- wave height: 0...600mm
- level: 0...600mm (chamber)
- flow velocity: 0...26m/s
- speed: 0...6000min
- current:  $\pm$ 1000mA

## EXPERIMENT TOPICS

- Familiarisation with operating principles of a wave energy conversion
- Understanding of energy generation from wave motion
- Measurement of wave motions
- familiarisation with design and operation of a Wells turbine
- Generator electrical efficiency
- Turbine generator efficiency

### Manuals :

- (1) All manuals are written in English.
- (2) Model Answer
- (3) Teaching Manuals

### General Terms :

- (1) Accessories will be provided where applicable.
- (2) Manual & Training will be provided where applicable.
- (3) Design & specifications are subject to change without notice.
- (4) We reserve the right to discontinue the manufacturing of any product.

### Warranty :

2 Years

## ORDERING INFORMATION :

ITEM	MODEL NUMBER	CODE
WAVE ENERGY CONVERTER GENERATION TRAINER	GOTT-WECGT-01	444-300

\*Proposed design only, subject to changes without any notice.