Detailed Description

This disclosure relates to the features of an apparatus for extracting energy from an oscillating working fluid, for example ocean waves repeatedly entering and leaving the apparatus in use. The disclosure also relates to the features of the apparatus which maximise the capture of the incoming waves. The disclosure also relates to a method of operating and controlling the apparatus to maximise the quantity of energy generated. The apparatus has a design which enables greater energy generation per unit flow of fluid than known techniques in this field.

Referring to the drawings, the apparatus shown in Figures 1 and 2 comprises a housing 15 which defines an interior conduit or duct 10 comprising two arm portions 12, 14, each arm portion comprising an elongate conduit which is generally rectangular in cross-section and arranged orthogonally to one another and connected in a generally L-shaped configuration, when the duct 10 is viewed from the side. (In further embodiments, like parts are given like part numerals for ease of reference in this description).

The first conduit 12 of the duct 10 is arranged in use to be substantially submerged below the mean surface level (MSL) of a body of water 16 in which it is located, for example to rest on the sand and rock base at an ocean shoreline, and oriented with its elongate axis oriented generally orthogonal to the shoreline, and in some embodiments, approximately horizontally aligned with the sand and rock base of the seabed. In use, the duct 10 forms the structure which will house an oscillating water column (OWC), that is generated in response to repeated movement in the body of water 16 in which it is submerged.

The first conduit 12 has a rectangular-shaped opening mouth 20 which is arranged for receiving an incoming wave flowing in from the body of water 16, the mouth 20 being oriented outwardly into the body of water which is the source of the