

**TITLE OF INVENTION: A SEAWATER DESALINATION DEVICE AND AN
APPLICATION THEREOF**

ABSTRACT

The present invention relates to seawater desalination devices, and provides a seawater desalination device, comprising a windmill, a crank connected to a rotating shaft of the windmill, a connecting rod connected to the crank, an air-liquid compression mechanism connected to the connecting rod, a mixing tank connected to the air-liquid compression mechanism, a desalination chamber connected to the mixing tank, a heating device arranged in the desalination chamber, a condensing device arranged above the heating device, a collecting tank connected to the condensing device, and an air energy heat pump. The mixing tank is connected to the desalination chamber through a connecting pipe, and the connecting pipe is conductively connected to the lower end of the desalination chamber. The air energy heat pump comprises a hot pipe in communication with the outlet end, and a cold pipe in communication with the inlet end. The hot pipe is arranged in the heating device, and the cold pipe is arranged in the condensing device. The cold pipe is connected to the hot pipe through a throttle valve. The present invention further provides an application of the seawater desalination device in agricultural irrigation and air humidification. The seawater desalination device of the present invention can desalinate seawater efficiently and does not need additional energy supply.

[Figure 1]