

Small Combined Construction Equipment for Soft Foundation

Treatment

ABSTRACT

A small combined construction equipment for soft foundation treatment comprises several membrane outlets for pumping gas and water arranged on a soft soil foundation covering membrane as well as a gas-water separation tank and a water ring vacuum pump; wherein the membrane outlets are connected with the gas-water separation tank, the gas-water separation tank is internally equipped with a submersible pump, and a drain outlet of the submersible pump is directly led to the outside of the tank by a drainage pipeline; and a gas pumping port is arranged at an upper part of the gas-water separation tank, and the gas pumping port is connected with a gas suction port of the water ring vacuum pump. The submersible pump in the gas-water separation tank discharges the accumulated water sucked into the tank from a soft soil foundation to the outside of the tank. The construction equipment is small and lightweight, is mounted nearby on the covering membrane as a complete set, has an extremely short connecting pipeline and can also greatly reduce energy consumption. The discharged underground water is discharged nearby via a pipeline onto the membrane and into a membrane ballasting channel for ballasting, or may also be discharged into the water tank for use as the working fluid of the submersible water ring vacuum pump and for

cooling the submersible motor. The automatic air pressure distributor allows the vacuum degree in the gas-water separation tank to gradually reach high vacuum.

Fig. 1