

Abstract

The present invention provides a safe, environment-friendly, energy-saving fuel-filling device which at least comprises of a double-wall fuel-storage tank (1) with explosion-resistant separating materials filling in the tank inner cavity and the tank wall interlayer. The fuel outlet pipe (11) of the fuel-storage tank is connected with the fuel dispenser (2). A skid body (3) is set up under the fuel-storage tank and the fuel dispenser. A hood body (5) is set up encasing the skid body. The fuel dispenser is in split installation, which consists of a digital electronic display (21), a fuel pump case body (22) and a fuel injector (23). The digital electronic display and the fuel injector are set up on the outer side of the hood body wall. The fuel pump case body is set up in the space formed inside of the hood body and outside of the fuel-storage tank and is fixed on the skid body. The fuel outlet pipe of the fuel-storage tank is connected to the fuel pump case body. The fuel outlet hose on the fuel pump case body is connected to the fuel injector through the wall hole of the hood body. A fuel gas recovery device (6) is set up on the fuel-storage tank, which comprises a breather valve (62) set up on the fuel-storage tank and connected with the fuel-storage tank through a breather valve pipeline. A triple valve (63) is mounted on the breather valve pipeline (61). One end of the triple valve is connected with the fuel gas recovery hose. During the process of transfusing fuel from the tank truck to the fuel-storage tank, the nozzle of the fuel gas recovery hose is joined to the fuel gas recovery hose of tank truck. In the fuel-filling device of present invention, a fuel dispenser in split installation is fixed on the hood body of the skid body, a explosion-resistant separating material filled in the tank wall interlayer and in the inner cavity, so that the floor area is greatly reduced and the intrinsic safety of the fuel-storage tank is guaranteed. The hood body on the skid body may be designed in diversified shapes and patterns according to the requirements of peripheral environment, so as to enhance the visual safety effect. Because of the special arrangement of the fuel gas recovery device, during the process of fuel transfusion from tank truck to storage tank fuel gas can be recovered in enclosed condition to avoid the volatilization of fuel gas in fuel-storage tank and effectively reduce the contamination and damage to the atmosphere, thus the invention has indeed realized the objective of safety, environmental protection, energy conservation.