

ABSTRACT

A diesel oil and jet fuel production system and method utilizing Fischer-Tropsch synthetic oil. The method comprises two parts, hydrofining and hydro-upgrading, and comprises the following steps: mixing a Fischer-Tropsch synthetic oil with hydrogen and introducing the same into a hydrofining reactor (A), and introducing a product thereof into a first fractionating tower (C); taking a cut naphtha fraction as an ethylene cracking raw material, and introducing a diesel fraction into a hydroisomerization reactor (E); introducing an unconverted oil into a hydrocracking reactor (D), mixing the products of the two reactors and then introducing the mixed products into a second fractionating tower (F) to obtain a jet fuel and diesel oil product, and circulating the unconverted oil to the hydrocracking reactor (D). The method can produce diesel oil, jet fuel and a hydrotreating wax oil product, has a simple technique, a stable process, low equipment investment, low costs, a long running period, and a high yield of diesel oil and jet fuel which can directly serve as fuel or blending components.