

Application of Heat Transfer Fluids in CSP Industry

With the high-speed economic blossom in the world, the shortage of traditional energy highlights the necessity and urgency of new energy development. As we all know, energy shortage is an international issue. According to the interrelated date, the reserves of unexploited crude oil are less than 2 billion barrels and would be exhausted in 40 years. Natural gas would also be drained in 60 years. The world economic development will more and more rely on coal before 2050. However, coal would be eventually used up during 2250 to 2500. The fossil fuel support will be close to the edge of disappearance. It is the direction of current scientific and technological progress to develop the renewable energy resources and discover new energy.

The new energy resources include solar energy, wind power, hydroenergy, tidal power, geothermy, biomass, nuclear fusion, ocean energy and biofuel derived from renewable energy and energy produced by hydrogen. Comparing to the traditional energy, the new energy has advantages of less contamination and larger reserves. As one of the future new energy main industries, the emerging of CSP industry both saves the non-renewable energy resource and solves problems of the worldwide environmental contamination and resource exhaustion. The CSP industry has currently already covered the fields of solar power generation, sea water desalination, heating, drying and etc.

The parabolic trough thermal solar power is the most mature technology among the CSP applications so far. The parabolic trough mirrors reflect sun rays into solar energy collector tubes containing heat-absorbing tubes and heat up the heat transfer fluid. The fluid, with the help of heat exchanger, heats water up to vapor, which pushes the steam turbine to generate electric power.

The maximum operating temperature of Schultz S740 biphenyl/diphenyl oxide mixture is 400°C, which makes Schultz S740 to be the excellent heat transfer/storage medium and guarantee the long-time power generation of solar plants. Based on the excellent properties of thermostability, inoxidizability and heat transfer efficiency, Schultz has been trusted by many CSP enterprises.