

Hitz Dehydration System Delivered for Bioethanol Manufacturing Plant

Hitachi Zosen Corporation has recently delivered the Hitz Dehydration System (hereinafter referred to as "HDS") using the Hitz type zeolite dehydration membrane element which the company originally developed.

This dehydration system was designed as part of the demonstration plant which was constructed in the Tokachi area of Hokkaido for Hokkaido Bioethanol Co., Ltd. (Sapporo City, Hokkaido; president: Toshiaki Tobita), a company organized mainly by the JA Group Hokkaido, under the national project called "demonstration project for regional utilization model of biofuel" by the Ministry of Agriculture, Forestry and Fisheries. We received the order for the HDS from Japan Chemical Engineering & Machinery Co., Ltd. (Yodogawa-ku, Osaka City; president: Masakazu Takahashi), which took charge of the distillation and dehydration processes at the above demonstration plant.

The HDS's capacity of manufacturing dehydrated ethanol is 15,000 kℓ per year, making the plant the largest membrane type dehydration facility in Japan.

The HDS is a bioethanol dehydration system using a new zeolite dehydration membrane element which we originally designed and developed. This Hitz type zeolite membrane element is of a seal-less structure, offering superior durability. In addition, its membrane microstructure is optimized to provide about 2 times or higher performance than that of the conventional dehydration membrane. During the trial operation, ethanol purity of 99.9 vol% was successfully obtained as dehydration performance.

An overview of this project is given below:

1. Site: Tokachi, Hokkaido Prefecture
2. Production capacity: 15,000 kℓ per year
3. Completion of plant: May 24, 2009