

Fauji Fertilizer Bin Qasim Ltd. 2023

A student visit to FAUJI FERTILIZER BIN QASIM LTD was organized by ASHRAE Pakistan NED University Chapter and the Department of Mechanical Engineering on December 12, 2023.



Fauji Fertilizer Bin Qasim Limited (FFBL), located in Karachi, Sindh, is one of Pakistan's largest producers of fertilizers, including urea, DAP, and other essential products. Established in 1993, the company has become a key player in the agricultural sector, with a urea production capacity of over 2 million tons annually, helping boost national agricultural productivity.

The NEDUET students' visit to FFBL (Fauji Fertilizer Bin Qasim Limited) provided an in-depth look into the production of urea and DAP fertilizers. The students observed the ammonia synthesis process, where natural gas is converted into ammonia, a critical component for fertilizers. The plant produces around 1.4 million tons of urea annually, using the Haber-Bosch process, which requires high pressure and temperature to combine nitrogen from the air with hydrogen from natural gas.



Figure 1. Glimpse of students learning about processes

Students learned that FFBL produces 2,100 metric tons of ammonia daily through steam reforming. They also saw how the Granulation process transforms ammonium nitrate into granular fertilizer. The use of advanced automation, like DCS and SCADA systems, was explained, ensuring smooth and efficient production.

The visit highlighted energy-saving methods, such as waste heat recovery, which cuts energy consumption by 10-15%. These insights into industrial processes, automation, and efficiency practices provided valuable knowledge for students, preparing them for future careers in engineering and manufacturing.



Figure 2. Students at Main Entrance of FFBL