

Technical Visit to Grundfos Pumps

A GRICULTURAL AND FOOD ENGINEERING TECHNICAL DIVISION



reported by
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Ms. Yew briefing the IEM members

PUMPS play a major role in our lives today. At the petrol station, we use a pump to fill up the car petrol tank. At home, pumps are also used in a number of ways, from the removal of wastewater to boosting the pressure of the incoming water supply. Similarly, in commercial buildings, pumps are also used in a wide variety of applications such as for air conditioning, heating, wastewater removal and fire protection.

What then is a pump? Simply put, a pump is a mechanical device that uses suction or pressure to raise or move fluids, compressed gas, or forces air into inflatable objects. Clearly a pump is there because it serves a purpose. It brings comfort to the habitat.

In order to gain a greater insight into pumps, 15 IEM members visited Grundfos Pumps Sdn. Bhd. in Shah Alam on 28 March, 2015. Incidentally, Grundfos is the world's largest



Presenting a souvenir to a representative from Grundfos Pumps

pump manufacturer. Based in Denmark, it was founded by Poul Due Jensen in 1945. The company has some 18,000 employees globally.

The briefing given by managers of Grundfos Pumps Sdn. Bhd. was divided into four parts.

PART 1: Mr. Aew Chan Hoong touched on topics surrounding the hydraulics and pump theories. He discussed the various types of pumps, calculation of pump flow and head, friction losses, pump curves and different situations/elements to consider when sizing pumps and also troubleshooting.

PART 2: Ms. Yew Pei Ling gave a briefing on the solutions available to reduce total electricity consumption via the Grundfos' optimisation and consultancy services. This service helps to determine if a pump should be repaired or replaced. According to Ms. Yew, a pump installation is analysed to reduce energy and money expenditures. In order to achieve this, a plant-wide energy reduction approach is taken. At the end of this exercise/service, the customer receives a full report, with documented savings and payback. This topic was one that participants were greatly interested in as many of their customers were looking for energy efficient solutions.

PART 3: Ms. Vennise Phang highlighted the relevant pumping solutions, namely propeller pumps and rubber dams for flood solutions, and wastewater transport pumps. She also briefed participants on the range of KPL submersible axial flow propeller pumps and KWM submersible mixed flow pumps for flood control and other heavy-duty pumping applications. These include innovative features such as the Turbulence Optimiser which increases efficiency by up to two percentage points. Turbulence Optimiser is an innovative solution for reducing turbulence in the gap between the pump volute and the column pipe. A further positive effect is that misalignment and production tolerances of the column will no longer affect efficiency.

To handle wastewater, processed water and unscreened raw sewage in heavy-duty municipal, utility and industrial applications, SE and SL pumps are used instead. Ms. Phang explained that these pumps are suitable for freestanding installation or for use as portable utility pumps. The S-tube impeller is the only one in the market designed to cope with the challenges of modern wastewater with varying dry matter content. The simple and robust design of the S-tube impeller offers world class hydraulic efficiency without compromising on free passage.

PART 4: Mr. Ho Ching Wah talked about the nationwide after-sales service available from Grundfos, including the new testbed facility available at the head office.

The participants were later taken on a tour of the showroom and the testbed facility. ■