



Technical Visit to a Valves Stockiest - Valmatic Engineering Sdn Bhd on 20 November 2010

by Ir. Tang Hee Teik

The Agricultural and Food Engineering Technical Division (AFETD) was organized a technical visit to Valmatic Engineering Sdn Bhd (VESB), in Shah Alam, on 20 November 2010. The visit was participated by 18 IEM members, and greeted by Mr. Falco Lim, the Marketing Director of VESB.



Group photo at the lobby area of Valmatic Engineering Sdn Bhd

Mr. Lim gave a presentation introducing the company and the range of products that they offered. Established in 1995, VESGB acts as exclusive agents and stockist for several reputable brands. It has even established its own house brand known as **VALMATIC®**. With a variety of valves under its stable, VESB is able to serve three major commercial sectors, i.e. Oil and Gas, Waterworks and Industrial. that includes Palm Oil Mills, Palm Oil Refinery, Bio-diesel, Rubber Glove, Food, Boiler manufacturers and general hardware dealers. VESB was setup in 1995 by a group of experienced and skilled personnel. Acting as exclusive agents and stockiest for several well reputable brands, the group gained invaluable amounts of skill and expertise as years pass. Experiencing phenomenal growth amidst steady development and market strength, the company has established with its own house brand, namely **VALMATIC®**, a brand with incomparable quality control and economical cost.

By having its personal house brand and continuing to represent others renowned brands, today, VESB is more equipped than even to offer enviable service to serve three major commercial sectors, i.e. Oil and Gas, Waterworks and Industrial. that includes Palm Oil Mills, Palm Oil Refinery, Bio-diesel, Rubber Glove, Food, Boiler manufacturers and general hardware dealers.

Mr. Lim then presents also gave a basic training on valves training to the participants. The short course outlines the various international Standards standards uses related to valves manufacturing., most applying This includes Americans standards likes (*API, ANSI, ASME, ASTM, , and MSS*). Some Europeans standards i.e. (*DIN, BSI, EN*) and Japanese Industrial Standard (*JIS*) are sometimes uses for making valves in certain regions..



Training in the Classroom



Training outside the classroom

Valves are commonly made of brass, bronze, cast iron, ductile cast iron, cast steel/forged steel and stainless steel, but although sometimes special alloy (monel, nickel, hastelloy B or C and etc) is used for critical applications. Corrosion resistance of the material of construction is the main reason for choice. Valves are also designed with different end connections such as Besides that, the designs of End Connection of the valves are equally important to secure installation and maintenance works. Some common designs of Valves End Connection are namely *Butt Weld End, Socket Weld End, Threaded End, Union Female End, Wafer End, Lug Type Tapped End* and *Flanged End*.

In fluid dynamic engineering, valves are always constructed and rated accordingly to cater in different engineering applications for safety and economical reason. Four parameters, i.e. Pressure pressure, – Temperature temperature (Heatheat) –, Physical physical (gas, or liquids or fluidized powder) – and Chemistry chemistry (caustic and acidity) of the flow medium should be considered in selecting the appropriate valve. for selection of type of valves require. To facilitate easy operation and maintenance of the valves, various types of handles are available, e.g. In addition, to facilitate and make easy the valves in its operation and maintenance in situation, handle are design in multi-turns (linear motion type) and or quarter-turn (rotary motion type); and either the The stem could also be are of the rising type or fixed (non-rising) type).

Thus, basically, valves can be identified into two main categories, i.e.

Operations	Types of Valves	Actuation
Multi-Turns Operation (Linear Motion types)	▪ Gate Valves ▪ Knife Gate Valves ▪ Globe / Angle Globe Valves ▪ Pinch Valves ▪ Diaphragm Valves	▪ Handwheel ▪ Spur Gear Box c/w handwheel ▪ Chain wheel ▪ Pneumatic Air Cylinder – ON/OFF ▪ Electric Actuator – ON/OFF and Modulating
Quarter-Turn Operation (Rotary Motion types)	▪ Ball Valves ▪ Butterfly Valves ▪ Plug Valves	▪ Wrench ▪ Lever ▪ Worm Gear Box c/w handwheel ▪ Rack & Pinion Pneumatic Actuator – ON/OFF & Modulating (with Positioner)

Other type of Valves commonly used in industries:-

Other Operations	Types of Valves	Functions
Check Valves (Non-Return Valves)	▪ Swing Check (Flange/Wafer) ▪ Lift Check ▪ Twin Door Check ▪ Disco Check ▪ Spring Loaded Check ▪ Piston Check ▪ Ball Check	▪ Allow one way flow. ▪ Prevent pipeline and related equipments from damage against reverse flow of medium.
Strainer	▪ Y-type Strainer ▪ Basket Strainer ▪ Cone Strainer	▪ To protect control valves, pumps and measuring equipments from damage by the scale or dirt in the piping system. ▪ Mechanically removing solid or debris from the flowing fluids or gases by the wire mesh or the perforated screening element.
Control Valves	▪ Pneumatic Control Valve ▪ Electric Control Valve	▪ Controlling by receiving signal from the controller. ▪ ON/OFF and Modulating Control.
Pressure Reducing Valves	▪ Pressure Reducing Valves ▪ Always assembly in a system arrangement - PRESSURE REDUCING STATION	▪ Self-acting Control. ▪ Reduced higher inlet pressure to constant outlet pressure. ▪ Typically used in steam pipeline to protect the system.
Safety Valves	▪ Full Lift Valves ▪ Standard Valves	▪ To discharge excess pressure. ▪ To protect system or vessel from over pressure. ▪ Typically installed on boiler for safety operations.
Thermostatic Control Valves	▪ Temperature Control Valve - o Single Seated Valve - o Double Seated Valve	▪ Self-acting Control. ▪ Control temperature for Heating and Cooling application.

Most type of valves was briefly discussed in the short training provided by the host. The team delegates was were then brought to the warehouse and workshop where valves are stored and tested prior to shipment.the products were being stored and tested prior shipment. A

demonstration on hydraulic testing (HT) of valves was also carried out. The training was become live when Mr Lim showed us around with the valves mentioned during the short course and a demonstration of hydraulic test (HT) of the products.

With the visit, the participants were able to gain a better understanding on the construction and application of different types of valves.



Some of the types of valves exhibit at the factory



Mr. Lim showed how the valve been tested

Before entering to the workshop, the AFETD Chairman, Ir. Kumar Subramaniam, presented a memento to the distinguished host and took a group photo. At the end of the visit, VESB appreciated the IEM delegates and gave a souvenir to all participants before leaving at around 1:00 p.m.