

HVAC (HEATING, VENTILATION AND AIRCONDITION) TECHNOLOGIES THRIVES IN AGRICULTURE By Tiro Diphofu

Window Bird Air Condition came in to existence in the year 1999. The company is presently situated at Phakalane, Gaborone. The company is the leader distributor of daikan air conditions, refrigeration and cold rooms, solar solutions (housing; boreholes; water pumps), shell case housing and camp equipment.

The Director of the company Mr. Martin Colley gave an insightful presentation on his revolutionary products. He started off with Gas Water Geyser. The Gas Water Geyser is manufactured by a Japanese company called Paloma. The Gas Water Geyser costs about P8, 690.00 Vat Exclusive. The Geyser delivers hot water at a constant pressure at a rate of 20ℓ/min (liters/minutes). The Geyser is very efficient. A typical 14kg (Kilograms) gas can last for 7 months in household of 2 occupants. The Microprocessor Control Unit is device that regulates gives water temperature and pressure. Mr. Colley gave an elaborative example on the efficiency of Gas Water Geyser at Elephant Value Lounge at Pandamatenge, Chobe District, Botswana. The Lounge bought a 48kg gas cylinder to power the Gas Water Geyser. The gas can lasted for a full season from May 2018-May 2019. Window Bird Air Condition gives a 5 year guarantee on this product to the buyer.

The next products that were breath taking were Camp Fridges and Trailed (portable) Cold Rooms. Camp Fridges range in sizes between 45-95ℓ (litres). The 45ℓ camp fridge costs P5000.00 Vat Exclusive and 85litre costs P9000.00 Vat Exclusive. The camp fridges can run on 12v (volts) or 220v battery depending on their size. The camping fridges of size 85-95 ℓ are the largest in the group. These fridges can be ran by 2 compressors in 2 different compartments simultaneously. One compartment can be ran at -20⁰C (degrees Celsius) and another at 2⁰C depending on the operators preferences.

Trailed (portable) cold rooms are energy efficient, they either can be ran by electricity or solar energy or both. They cost between P25,800.00-P36,750.00 depending on their holding capacities. The smallest portable cold room costs P25,800.00. It has a holding capacity 750kg of meat and power requirements of 2.1kW (kilowatts). The medium portable cold room costs P26,640.00. It has a meat holding capacity of 1000kg. The store room has power requirements of 2.99kW. The largest portable cold room costs P36,750.00. The store room has 1500kg meat holding capacity and power requirements of 3.4kW.

Mr Colley lastly presented on lithium ion batteries. The main advantage of lithium ion batteries compared to lead acid batteries; Lithium ion batteries uses it's depth of charging 100% while lead acid batteries uses 35% of it's depth of charging. Mr Colley remarked that "Lithium ion batteries are quicker to charge. It takes a full hour to charge from empty to full. The charge efficiency of lithium ion batteries is 98% better than lead acid batteries,". A starter battery costs P5000.00 Vat Exclusive and 100amps costs P8500.00 Vat Exclusive. The batteries have 5 years warranties and 10 years guarantees.

In conclusion lithium ion batteries can last up to ten (10) years while lead acid batteries can last up to two (2) years. Lithium ion batteries are much lighter. Lithium ion batteries are very expensive but in the long run are cheaper compared to lead acid batteries because of their longevity, reliability and convenience. Lithium ion batteries can be used to power light, medium and heavy machineries like motorcycles, motor vehicles, tractors and trucks. They can also be used to power entertainment devices like radios and televisions.