

Complete cold end solutions for Saudi Arabia

In autumn 2015, a second melting tank for the production of glass containers was commissioned at The National Company for Glass Industries (ZOUJAJ) in Riyadh, Saudi Arabia. The complete cold end, including bottle conveyor systems, palletisers, shrinkwrapping system, pallet conveyor system and a networked control software, was supplied by long-term partner and leading international equipment manufacturer, MSK. Uwe Jonkmann reports.

Over a period of several years, MSK has developed an equipment concept for the cold end of the expansion project at National Glass Zoujaj, in close collaboration with project managers at the Saudi Arabian hollow glass manufacturer. "The National Company for Glass Industries 'ZOUJAJ', a Saudi joint stock company in the glass bottle manufacturing business, carried out its expansion project that has recently started commercial production" explains Yousef Al-Salman, General Manager at National Company for Glass Industries (ZOUJAJ). "For the supply of machinery, erection and commissioning of complete cold end solutions (from bottle conveyor system to pallet conveyor equipment), ZOUJAJ approved MSK for the job on a turnkey basis, in view of the company's credentials, state-of-the-art technology, expertise in the field and prompt after-sales maintenance service and co-operation."

According to Yousef Al-Salman, in the months since

start up, the machinery installed and commissioned by MSK has been functioning well and to the glassmaker's satisfaction.

In 2006, MSK supplied two fully automated palletisers with automatic tray makers for the existing production shop. The glass manufacturer was impressed by the holistic concept for the solution now supplied for the second furnace, which extends over two levels: All machinery supplied by MSK for the cold end, from the glasslehr to the pallet packaging system, was supplied from a single source and as a turnkey installation. This made it possible to achieve without numerous component interfaces as potential sources of errors, in addition to which it was possible to network the entire system with standardised control software.

PREMIUM QUALITY CONVEYOR SYSTEM

From the glasslehr onwards, the MSK bottle conveyor systems take control of production on two lines and ensure the smooth flow of bottles through the inspection machines, right to the palletising station. Since production extends across two levels, the bottles are conveyed by MSK bottle lowerators from the second floor to the first floor, where the palletisers and shrinkwrapping system are installed. MSK bottle conveyor systems are constructed from stainless steel and premium components for long service life and are controlled by the MSK EMSY software.

CENTRALISED PALLET PREPARATION

The MSK palletising system is supplied with empty pallets from a centralised dressing line. In addition

to the placement of a base film sheet, the empty pallets are also fitted here with cardboard or plastic base sheets.

An MSK shuttle car transports the stack of finished empty pallets to the two recently installed palletisers.

CLEAR SAVINGS

Use of the MSK Duotech rotating arm palletising system, combined with the MSK Unitech universal head, offers significant benefits. Compared to a gripper tube system, the universal solution allows quick and easy job changes.

Moreover, the consumption of air is considerably reduced and there is no need for the subsequent purchase of spare parts when wear occurs on gripper tubes. The palletisers are also equipped with MSK tray makers.

FLEXIBLE PALLET PACKAGING

Finished pallets are packaged with a robust protective UV film by an MSK Multitech shrink hood wrapping machine. The MSK under-shrink >



MSK bottle conveyors transport the glass containers to the palletisers.



The MSK Multitech shrink hood wrapping machine packages glass pallets with a robust protective UV film.



The MSK shuttle car allows quiet and automatic pallet transport.



The intuitive MSK EMSY visualisation software makes machine operation easier.

system fastens the film far under the pallet base, so it ensures high load stability at reduced film thickness. The economical and reliable MSK Econotech secure shrink system heats the film gently with hot air, increasing the fatigue strength of the film, even in cases of long duration storage outdoors.

For the Saudi Arabian region, the MSK Multitech packaging system is an ideal packaging solution that is being increasingly put to use by glass manufacturers. The machine can be supplied as a multi-format system, so it can be equipped with up to four different film formats. This makes it possible to flexibly package both European pallets as well as overseas pallets, for example – an important requirement for manufacturers that are oriented to the world market.

AUTOMATED PALLET TRANSPORT

An MSK shuttle car with two pallet places connects together the separate stationary conveyor lines. When requested, the still unpackaged glass pallets are conveyed from all palletising lines to the shrinkwrapping system. Here, the shuttle car supplies both the recently installed machines, as well as the palletisers that were previously in place to handle

production from the first tank.

The shuttle car even serves the dressing line that is integrated in the overall system for the preparation of empty pallets. In total, the mobile pallet conveyor is designed for a capacity of up to 60 pallets per hour. It replaces forklift traffic between individual lines, so it provides a quiet, reliable and automated flow of materials.

NETWORKED INFORMATION TECHNOLOGY

At National Glass, the entire cold end is controlled by MSK with its EMSY software, which was specifically developed for MSK equipment. The intuitive visualisation software with its 3D animations makes operation easier and shortens the time necessary for familiarisation. Once a parameter has been entered, it can be automatically transferred to other machines. It is possible to trace the products throughout the entire logistics system with the software and also to control the overall system.

A special feature is that the palletisers, as well as the bottle conveyor installed in the same hall, can both be operated from one and the same EMSY terminal, which reduces both costs, as well as space requirements for the hardware.

CO-OPERATION AS PARTNERS

ZOUJAJ and MSK are already working together on the next project: As a result of the successful work together, in 2016 MSK will again be supplying cold end equipment with bottle conveyor and palletising systems for the original tank. ■



The universal palletiser from MSK flexibly processes a wide variety of bottles.

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