

## What does Chinese tea have in common with ROSTA elements?



*Zhongke Optic-Electronic Color Sorter*



*Lower tea-leaf shaker with AU 18 rocker arms*

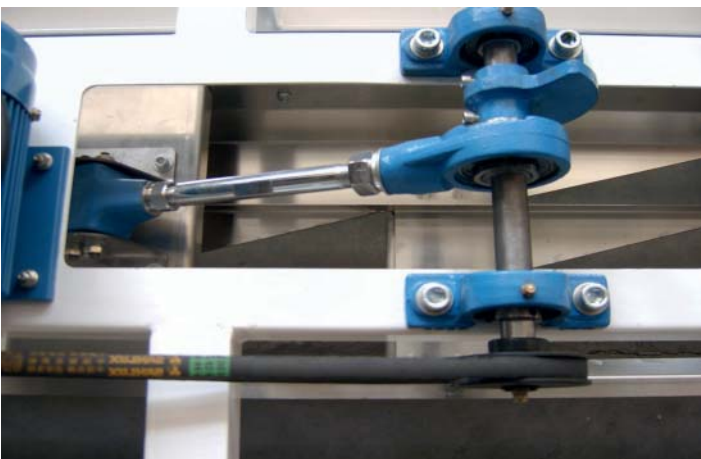
It is well known that the invention of tea is attributed to the Chinese, who already knew and appreciated this hot, invigorating drink thousands of years ago. It is also clear that it was the English who refined the culture of tea drinking in the 18th and 19th century, and made this "leaf stock" respectable in high society, even though they added milk to the beverage!

The technology behind the cultivation of tea plants and the art of refining the types of leaf have their origins in the Far East, however.

It is therefore not very surprising that the selection of tea leaves has now been optimised and automated in China using the latest technology. The **Zhongke Optic-Electronic Color Sorter Machinery Co., Ltd.** from Hefei (Anhui Province) has developed an optical sorting device especially designed for tea leaves over the last few years. The colour sorting device detects the ideal shape of the tea leaf, as well as its deep green colour, in the flow of tea leaves using high-performance scanning cameras. Tea leaves that are too small or that are discoloured are blown out of the continuous flow of tea

leaves using a number of air jets, and are taken away separately. Only good and aromatic leaves thereby make their way into the further processing into tea.

The flow of tea leaves in the optical sorting unit must be continuous and well distributed, otherwise the high-performance cameras will not be able to register all the leaves – if the leaves travel past the cameras in several layers, the individual leaves cannot be optically registered and too many poor quality leaves will find their way into the production. **Zongke Optic-Electronic Co., Ltd.** doses the ideal leaf feed by means of oscillating conveyor troughs with eccentric shaft drives. The leaf feed trough is located on the unit, and feeds the leaf slides; a further removal chute is positioned under the machine and transports the "good" tea leaves to the subsequent washing process. Both troughs are mounted on vibrating arms, consisting of two **ROSTA Type AU 18 oscillating mountings**. The eccentric movement is transferred to the trough by means of a **Type ST 27 connecting drive head**. A total of 80 conveyor troughs were built in the year 2009 = 40 tea sorting units.



*Crank drive with counter-weight and ST 27 drive-head*

## Handle with care!



You will find this written in large letters in the bottle handling departments of mineral water springs and breweries. On the one hand, many beverage bottles are still made from glass, and, on the other, the plastic transport boxes (crates) are also not absolutely unbreakable, and certainly not at low ambient temperatures.

The bottle-filling lines in large mineral springs and at "Pre-Mix" beverage distributors are all fully automated nowadays; nobody has to fear a crooked back any more when handling bottles and containers. Packed onto uniform pallets, bottle crates are mostly delivered to the wholesalers stacked in groups of 24. The 6, 8 or 10 individual bottles are picked up from the filling belt by a robot arm and are stowed securely in the partitioned boxes. The full transport boxes are mostly picked up in groups of eight in a so-called "palleting head", and are then aligned and stacked on top of each other in up to three layers on the transport frames.

The pneumatically operated gripper mechanism lines up the transport boxes, aligns them into packages of eight, and lifts them from the conveyor belt onto the pallet frame. The gripper head with

12 clamping arms ensures the precise alignment of the 8 transport boxes (see Fig. 1).

The 12 gripper arms of the **palleting head** are activated pneumatically (compressed air cylinder) and pick up the plastic transport boxes with a high compression for the alignment and lifting. At low ambient temperatures, the crates often fracture at the upper plastic collars, which have become brittle due to the cold.



**WYSS**   
**GÜDEL GROUP**

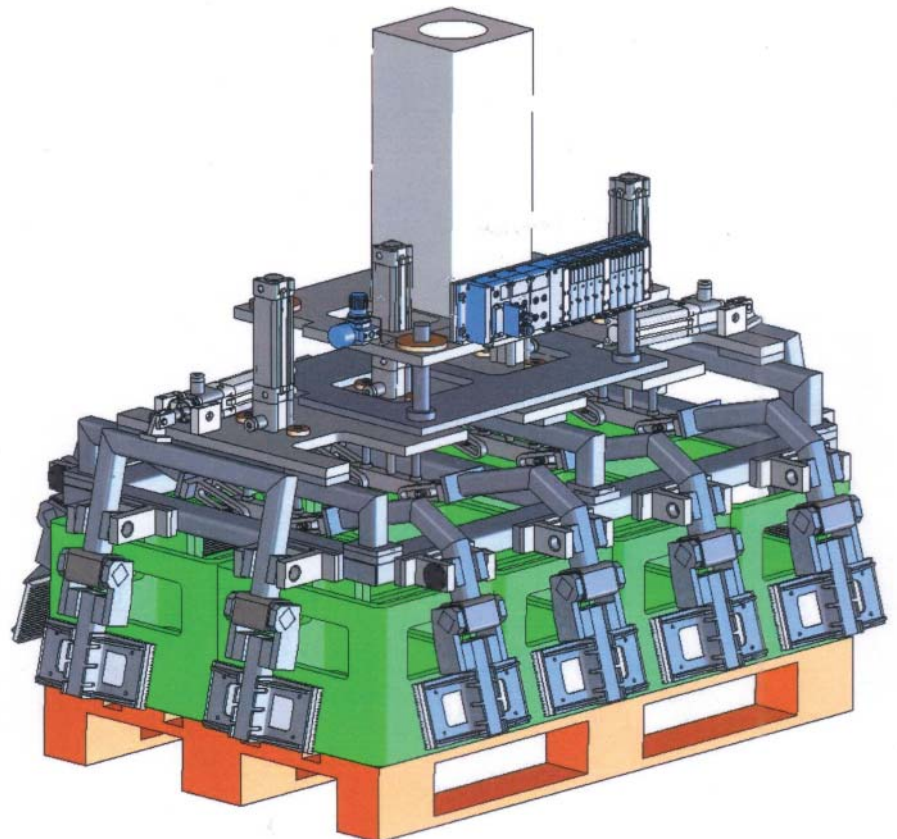


Figure 1

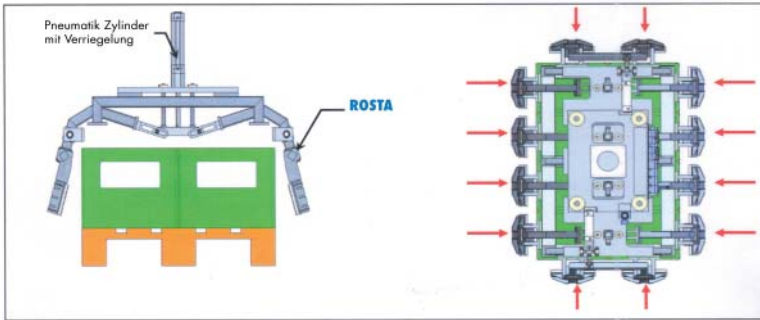


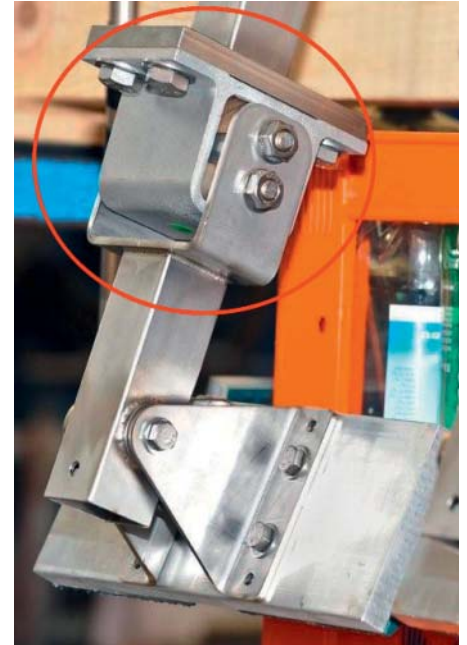
Figure 2

The Swiss company "GÜDEL Wyss Logistics" in Kestenholz (formerly WYSS TECHNIK AG), who manufacture conveyor systems for the beverage and food industry, recently brought their new palleting head onto the market. To ensure the "gentle" alignment and gripping of the bottle transport boxes, the manufacturer installed torsionally-elastic ROSTA Type DW-A 38 x 80 rubber suspension unit between the compressed-air operated gripper mechanism and the 12 clamping claws (see Fig. 2). The gripper claws

press the crates into rank and file with controlled force via this rubber suspension. The contact pressure on the crates can be precisely adjusted by means of the adjustable gripper mechanism.

#### CUSTOMER BENEFITS:

No more broken transport boxes, as well as gentle, controlled and almost silent alignment of the crates!



Individual claw suspension with elastic ROSTA type DW-A 38 x 80 rubber suspension unit



WYSS gripper head with 12 clamping claws



## The taming of an official troublemaker

Our Indian representation, **Technolent Engineering Ltd.**, received a request from a government enterprise to take part in the development and the production of vibrating tables for the long-term testing of **vehicle batteries** for railway and military vehicles. The long-term tests should be carried out as specified in the JIS standards (Japanese Industrial Standards) for vehicle batteries.

**Technolent Ltd.** in Bangalore is not only the sales partner of **ROSTA** in India, but also of **italvibras** unbalanced motors. The vibration table was therefore mounted on four **ROSTA Type AB-D 27** oscillating mountings and was caused to vibrate by means of two **italvibras MVS1 10/1110** motors. The test requirements for the loading test specified a constant

acceleration of **3 g** over a specific time period determined according to the intended use or the type of vehicle in which the batteries are to be used. The above-mentioned acceleration of **3 g** in this test configuration at a speed of **1,000 rpm** corresponds to a table oscillation amplitude of **5.5 mm**. The government enterprise also specified that the test table should transfer as little vibration and residual force to the surroundings as possible.

The prototype of the vibration table had to be tested and approved by an institute recognised by the government. The **TECHNICAL MANUFACTURING TECHNOLOGY INSTITUTE** in Bangalore tested the table and recorded the resulting acceleration values. An acceleration of approx. **3.15 g** was measured on the vibrating upper section, which corresponded to the requirements.

The residual acceleration measured underneath the **ROSTA Type AB-D 27** oscillating mounting was **0.019 g** at all four supports, which corresponded to an acceleration reduction of **99.4%** compared to the upper section! The customer was satisfied – although the institute did not believe this high isolation effect, and retested the values

several times more – but the acceleration reduction remained at more than **99%**!



*Accumulator test-bench mounted on 4 ROSTA oscillating mounts type AB-D 27*



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### ROSTY'S COMMENTS:

