Ningbo Powerway (Boway) goes for Otto Junker quality and engineering

In August 2019, Ningbo Powerway New Material Co., Ltd. (Boway) of Ningbo, China placed an order with OTTO JUNKER for the supply of two continuous annealing lines with strip flotation furnaces for copper strip.

The company produces alloy bars and wires as well as alloy plates and strips. High-performance alloy material developed by Powerway are widely used in aerospace, high-speed trains, telecommunication, shipbuilding, automotive, electronic instrumentation, etc. The company also produces alloy for the renewable energy sector.

The two lines are intended for installation in a new factory to boost the output of products such as copper alloy strip for electronic/telecommunication devices.

As a one-stop supplier, OTTO JUNKER will provide the entire lines – complete with integrated strip de-greasing and pickling units, brushing machines, passivating equipment and decoilers/recoilers. Parts of the system are to be manufactured locally by a wholly owned subsidiary, OTTO JUNKER Metallurgical Equipment (Shanghai) Ltd.

Both systems are rated for strip widths up to 650 mm and strip thicknesses from 0.1 to 1.2 mm and 0.05 to 0.8 mm, respectively. One outstanding feature is that each line can run at up to 120 m/min in continuous service. On the thin-strip line, strip joining is provided by OTTO JUNKER’s patented eyeletting joiner.

The core of each degreasing, annealing and pickling line is a gas-fired 2VX-T strip flotation furnace. The metal strip is supported only by a cushion of protective atmosphere of nitrogen and hydrogen, without any mechanical contact, as it passes through the annealing and cooling cycle.
The patented 2VX-T strip flotation furnace was developed in close cooperation with the Technical University of Aachen (RWTH). Its specified target characteristics were optimized using computational fluid dynamics and had been confirmed by previously supplied systems of this type:

- High buoyancy and stable strip position
- Uniform heat transfer across the strip width for consistently high product quality
- Aerodynamic strip centering by means of patented centering nozzles
- Long-life centrifugal fans for optimum efficiency
- No feed-throughs from outside into plenum chambers

As part of an „Industry 4.0“ compliant digitalized factory, the supply of feedstock is handled by user with the aid of a networked logistics system and driverless „automated guided vehicles“ (AGV). These AGVs deliver and receive coils to/from an OTTO JUNKER coil car as the controllers exchange the relevant data sets.

In terms of CO2 emission savings, the two lines likewise meet the highest standards. Alongside well-known energy loss minimizing technology such as recuperative burners and optimized insulation, both lines are equipped with the OTTO JUNKER heat recovery system. This re-uses up to 30% of the useful energy input for heating the rinsing baths.

Apart from relying on locally manufactured content OTTO JUNKER, through its Shanghai service base, provides a high-quality service with minimized response times to the customer, Ningbo Powerway. Both lines are scheduled to be installed and commissioned in the summer/autumn of 2021.