

## Suppliers

### Automatic anodes slotting machine for Alcoa positively tested at Tomorrow Technology workshop

The automatic Anodes Slots Cutting Machines (ASCM) designed and manufactured by T.T. Tomorrow Technology have become the benchmark in the anode slot technology. The innovative design developed by the Italian company ensures a precise cut of the slots and a very smooth running as well as a low wear (long service life) of the blades, a long service life of the machine and reduced maintenance requirements.

The ASCM are flexible for cutting one or two longitudinal slots in anodes, even of different sizes, and offer great flexibility in terms of slots shape, depth and thickness.

The most recent ASCM leaving T.T.'s premises was successfully tested to pass the Factory Acceptance Tests observed by the Alcoa and Fluor project teams in December 2018; its final destination is an Alcoa plant in Norway where it will soon go into operation.

The main purpose for cutting slots in a carbon anode is to maximize the escape of gas



bubbles ( $\text{CO}_2$ ,  $\text{CO}$ ) released at the bottom of the anode during the electrolysis process, thereby reducing production costs and improving metal output. Especially for the Norwegian project, the standard core of T.T.'s design was adapted to the specific Alcoa requirements in order to be smoothly integrated in the Norwegian anodes production facility. The ability to cut slots with interrupted profiles (to direct released gas to the centre of the pots)

to increase slot depth and reduce width justifies the new investments.

The ASCM were fully assembled in T.T.'s workshop and fully tested for its operation with the anodes supplied by the client to fine tune the process when tested and approved by the customer prior to delivery. This is also a strategic approach for the company to reduce the installation, commissioning and start up time necessary at the destination, to ensure smooth and fast commissioning and trouble-free delivery to production and to minimize operational disruptions.

The close collaboration of the project teams was key to overcome the great challenge of shortening the project duration as the Factory Acceptance Test took place more than two months ahead of schedule.

The appraisal of the investment to install the automatic ASCM takes into account the benefits of deeper and narrower slots and demonstrates a high level of profitability even when existing installations are replaced during operation at a lower performance level or when slots are made in the green phase. Shorter project times from engineering through construction to commissioning and installation mean that the positive cash flow from the investment can be expected.