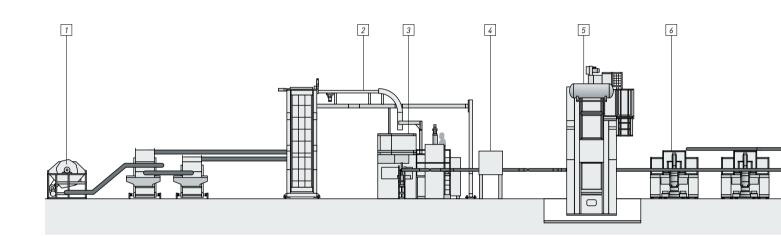
FORMING THE FUTURE



MASS PRODUCTION OF PRISMATIC BATTERY CELL CASES



MASS PRODUCTION OF PRISMATIC BATTERY CELL CASES.



1 + 2 Slug lubrication and infeed

- Standard slugs available worldwide
- All material fed into press \rightarrow no web grid, no scrap
- Orientation of slugs \rightarrow consistent slug feed
- Shaped slug for economic utilisation possible

3 IE Press

- Transforms slugs into prismatic alu cases
- One stroke operation \rightarrow minimum tool equipment needed
- Hundreds of machines worldwide in operation → proven technology
- Supplied with tools
- Highspeed forming process

4 Preform Inspection

- Control of shape → consistent input parameters of subsequent processes
- Feedback on forming process → maintain and improve consistent IE process
- Eject of defective cases → high availability due to reduced machine stops of subsequent processes

5 PP Press

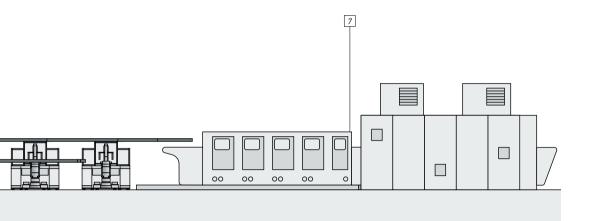
- Reduce wall thickness of cases
- Homogenize material distribution → improve laser welding of lid
- Introduce lid assembly features \rightarrow improve lid placement
- Lowest number of forming operations including transfer system \rightarrow minimum tool equipment needed
- Technology developed by Schuler
- Supplied with tools

6 Trimmer

- Trim case to correct final height \rightarrow exact geometry
- Inside-out operation \rightarrow no burr inside \rightarrow safe insertion of jelly rolls
- Vacuum clamping during trimming \rightarrow no deforming
- Supplied with tools

7 Washer/Dryer

- Remove lubricants and any particles \rightarrow cases ready to use
- Alkaline washing process \rightarrow no environmental issues
- · Gas or electrical dryer oven



8 End of Line

Palletizing, visual inspection or anything else –
End of Line is completely tailorable to your requirements

9 Line control and data monitoring

- Central control of complete line
- Balancing of machine speed for smooth line operation
- Calculation of KPI's of line
- Support of maintenance

YOUR ADVANTAGES

- Enables to produce prismatic cases, no matter what format
- Turn-key supply incl. tools, complete package from Schuler
- World-wide installation and service at customers
- Ramp-up support possible \rightarrow speed-up business case
- Up to five times faster than other manufacturing processes
- Satisfied battery customers

DIGITAL SOLUTIONS - DIGITALIZATION IN THE PRESS SHOP

With Metris Digital Solutions, Schuler offers you new opportunities to boost the productivity of your press shop. From the networking of your systems and die protection to component tracking and production monitoring. Embark on the path to digitalization with Metris. Reliable, uncomplicated, and customized to your individual needs.

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Schuler offers customized cutting-edge technology in all areas of forming – from the networked press to press shop planning. In addition to presses, our products include automation, dies, process know-how and service for the entire metalworking industry. Within the Metris platform by ANDRITZ, Schuler brings together digital solutions for networking forming technology and develops them continuously to further improve line productivity and availability. For battery production in gigafactories, Schuler provides equipment and services in the process steps of cell assembly and formation. Our customers include automotive manufacturers and suppliers, as well as companies in the forging, household appliance and electrical industries. Presses from the Schuler Group mint coins for more than 180 countries. Founded in 1839 at our headquarters in Göppingen, Germany, Schuler has approx. 5,000 employees at production sites in Europe, China and the Americas, as well as service companies in more than 40 countries. The company is part of the international technology group ANDRITZ.

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