WIDE STRIP CASTING AND ROLLING LINES

A Range of Solutions to Meet Quality and Production Needs of the Most Demanding Battery Manufacturers.

TWIN ROLL CASTING UNIT
• Couple of water cooled rolls driven by VFD.
• Inductive heating system for twin roll side plates.
• Special ladle to feed the lead with accurate level control.
• Automatic system to control the volume of cooling water according to the temperature of the raw strip.
• Insert system for easy maintenance of the twin rolls.
• Water pump for disposing the used cooling water.

SIDE TRIMMING UNIT
After the rolled strip has been cleaned and dried, the strip is trimmed on both sides to the required final width up to 300 mm. The same unit provides the cutting of the scraps into small pieces to be easily returned to the furnace. This station can also cut the whole strip, returning the resulting scraps to the furnace, if any alarm is triggered.

COILING SYSTEM
This unit rotates by 180° on a horizontal axis and supports two coiling reels: when the coil is completed, the strip is cut and a new strip coiling is automatically started in the second coiling station. In the meantime, the full coil is disengaged from the spindle by a shuttle and unloaded by a hoist or forklift.

KEY FEATURES AND BENEFITS
Lead strip thickness reduction rate of 90-95% assuring material microstructure smaller than 50µm:
• HIGH PRODUCT QUALITY THANKS TO CORROSION RESISTANCE, PASTE ADHESION, MATERIAL STRENGTH
• Long track records of installations among global top battery manufacturers:
• PROVEN TECHNOLOGY ABLE TO FULFILL OEM REQUIREMENTS
• Rolling stands independently driven by dedicated motors (PLUS version only):
• SIMPLIFIED MAINTENANCE WITH SINGLE SIZE ROLLERS AND EASY SPARE PARTS MANAGEMENT
• On-the-fly strip thickness adjustment from control panel:
• TIME SAVINGS AND TRACEABILITY OF WORKING PARAMETERS
• Compliant with EU safety regulations:
• GUARANTEE OF OPERATOR'S SAFETY STANDARDS

WIDE STRIP CASTING AND ROLLING LINES
WSC TR320/14 PLUS
• 2 rectangular pots with 30T capacity.
• 1 round pot with 20T capacity for lead feeding to casting unit.
WSC TR320/14
• 3 round pots with 20T capacity.

SOVEMA GROUP S.p.A.
Via Spagna 13, 37069 Villafranca di Verona VR - ITALY
Tel. +39 045 6335711 - Fax +39 045 6303911
info@sovemagroup.com
www.sovemagroup.com

The information contained in this leaflet is for illustration purposes only and may be subject to changes.

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TECHNICAL DATA

<table>
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<tr>
<th>Model</th>
<th>WSC TR 320/14 PLUS</th>
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<td>Thickness: from 0.7 to 1.5 mm, with tolerance of ± 0.01 mm</td>
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<td>OPTIONAL ITEMS</td>
<td>• ELECTRICAL HEATING for lead pots.</td>
<td>• THREE ADDITIONAL LEAD POTS to handle different alloys separately.</td>
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<td>• LASER MEASUREMENT SYSTEM to work in loop with the finishing rolling stand for automatic thickness adjustment.</td>
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<td>• LEAD SCRAP RECOVERY SYSTEM from punching machine to the lead pot.</td>
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Thanks to its specific combination of experience and innovation, Sovema can now offer a range of solutions to better meet the different production needs of battery manufacturers.

**4+1 ROLLING MILLS**
This group consists of 4 rolling stands + 1 finishing rolling stand to roll the strip down to the final thickness (from 0.7 to 1.5 mm as a standard).

**Main features:**
- Independent motorization on each rolling mill.
- Same size for all cylinders.
- Increased interspace between each rolling mill and open and accessible water bath for easy access and maintenance.
- New frame for the rolling system.
- Weighing cells to control the strip between each rolling mill.
- Gear group introduction for each rolling mill.

**TR 320/14 PLUS**

- **HIGHER PRODUCTIVITY (7.5 T/H)**
- **EXTENDED LIFETIME**
- **IMPROVEMENTS IN MAINTENANCE**

**TR 320/14**

- **PROVEN TECHNOLOGY WITH OPTIMIZED COST**
- **LONG TRACK RECORD OF INSTALLATIONS WORLDWIDE**

**6+1 ROLLING MILLS**
This group consists of 6 rolling stands + 1 finishing rolling stand to roll the strip down to the final thickness (from 0.7 to 1.5 mm as a standard).

**Main features:**
- Two motors, one for #1 to #6 rolling stands, and one for the 7th finishing rolling stand.
- Increased interspace between each rolling mill.
- New frame for the rolling system for easy access and maintenance.

**LASER SYSTEM FOR THICKNESS MEASUREMENT**
The laser system can work in loop with the finishing rolling mill on both models for continuous strip thickness control, with a precision of 1.5 µm. This option can be installed as a retrofit on all existing machines.

**OPTIONAL**
- **HIGHER PRODUCTIVITY (7.5 T/H)**
- **EXTENDED LIFETIME**
- **IMPROVEMENTS IN MAINTENANCE**

**WSC TR320/14 PLUS is available also with increased production capacity of 12 T/h of raw strip.**

**UPGRADE AVAILABLE**

**WSC TR320/14 is available also in line with Sovema PunchPlus®, for continuous production of punched strip. This combined system allows the reduction of the overall footprint of the grid production line.**

**MORE THAN 30 UNITS INSTALLED WORLDWIDE**
LEAD POTS
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- 2 rectangular pots with 30T capacity.
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WSC TR320/14
- 3 round pots with 20T capacity.

TWIN ROLL CASTING UNIT
- Couple of water cooled rolls driven by VFD.
- Inductive heating system for twin roll side plates.
- Special ladle to feed the lead with accurate level control.
- Automatic system to control the volume of cooling water according to the temperature of the raw strip.
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- Water pump for disposing the used cooling water.

SIDE TRIMMING UNIT
After the rolled strip has been cleaned and dried, the strip is trimmed on both sides to the required final width up to 300 mm. The same unit provides the cutting of the scraps into small pieces to be easily returned to the furnace. This station can also cut the whole strip, returning the resulting scraps to the furnace, if any alarm is triggered.

COILING SYSTEM
This unit rotates by 180° on a horizontal axis and supports two coiling reels: when the coil is completed, the strip is cut and a new strip coiling is automatically started in the second coiling station. In the meantime, the full coil is disengaged from the spindle by a shuttle and unloaded by a hoist or forklift.

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