STRIP MANUFACTURING LINE LCR 100-12/3.5

sovema®

EQUIPMENT FOR ENERGY STORAGE

SEPARATE POSITIVE, NEGATIVE ALLOY MELTING & FEEDING SYSTEM

The system includes 2 robust chain conveyors for storing and transporting lead ingots to the melting pots.
A system of limit switches synchronizes and controls step by step the ingot feeding.

The melting system is composed of:
- 4 steel melting pots with a built-in weighing system to accurately control the feeding of the lead ingots.
- Automatic temperature control system complete with electronic heat adjustment.
- Integrated delivery pump for molten lead alloy with adjustable flow control.

CASTING WHEEL

For the continuous casting of the lead strip, 100mm x 12mm dimensions (different widths are available up to maximum 120mm).
Main features of the casting wheel:
- Specially designed pouring ladle for feeding the alloy, electrically heated and with an automatic level control.
- Steel casting wheel, with a controlled drive unit for the synchronisation with the rolling mill.
- Seamless steel belt covering the casting wheel with a spring loaded deflection roller, water pump for cooling with adjustable volume, in order to control the temperature of the raw strip.

RAW STRIP SELECTING SYSTEM

The system consists of:
- new electronic raw strip wave control, for the fine tuning of the output speed of the strip coming from the casting wheel;
- raw strip cutter.

The unit cuts the raw strip into small pieces. This operation is used to return the raw strip back to casting,
if the downstream equipment has to be stopped or at the start - up, when the initial few meters of raw strip need to be scraped and returned to the melting pot.

ROLLING MILL 6+1

It consists of 6 rolling stations to process the raw strip followed by one independently driven finishing station, which precisely finishes the strip to a final thickness within the range 0.7 - 1.2 mm.
The rolling mill is surrounded by a tank containing an emulsion of 1% oil in water, in order to lubricate and thermally control all the stations.
A re-circulation pump is used to provide a continuous emulsion flow.
A water heat exchanger controls the temperature inside the tank and a filtering system continuously cleans the emulsion.

STRIP CLEANING & TRIMMING UNITS

The STRIP CLEANING UNIT cleans and dries the strip by blowing air and returning the residual emulsion back to the main tank.

The TRIMMING UNIT cuts the side of the strip and trims it to the desired width.
The unit also cuts up the scrap produced during the trimming process into small pieces, so that they can be easily returned to the melting pot.
If required the unit can also cut the entire strip, in case of any alarm.

TWIN RECOILER - COIL TILTING & LAYING DEVICE

This unit rotates at 180° on a horizontal axis and supports two coils of strip.
When one coil is completed, the strip starts automatically to wind onto the second coiling station.
In the meantime the full coil is stored vertically on a cradle, onto which a pallet has been previously placed.
When two coils have been completed, they are both rotated 90° as to be picked up by a forklift.

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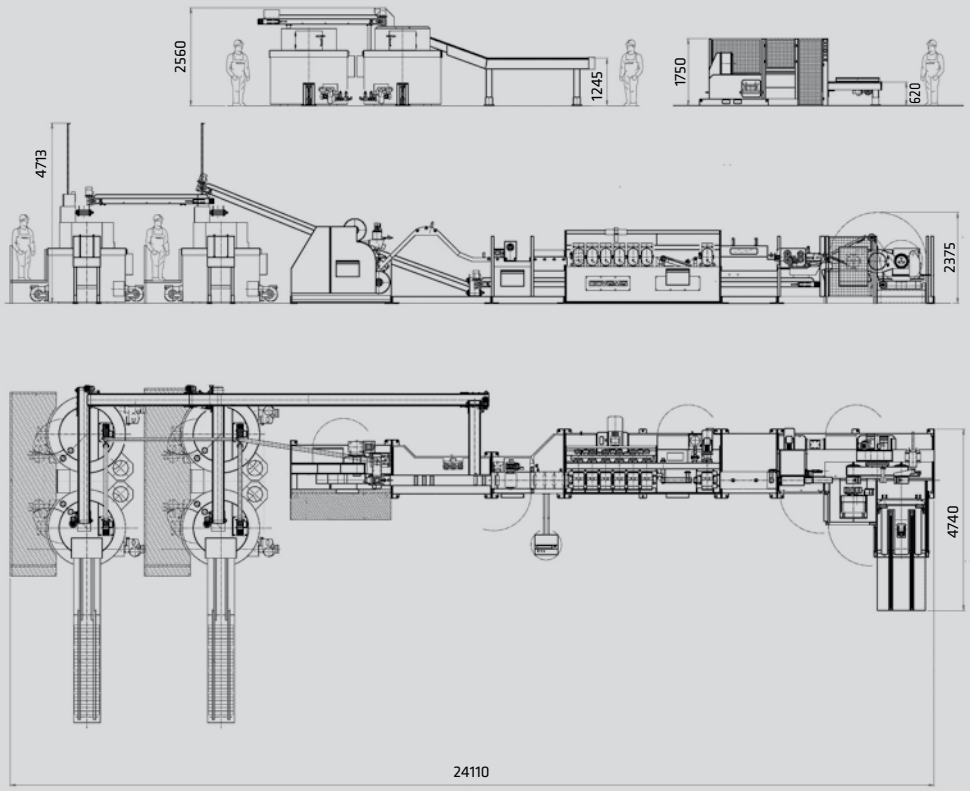
OVERALL DIMENSIONS



TECHNICAL DATA

Production limitation	
- production capacità	up to 3.5 ton/h
- raw strip width	100 mm (other width on request up to 120 mm)
- raw strip thickness	12 mm
- final strip width	60-100 mm
- final strip thickness	1.2-0.7 mm
Electrical requirements	
- installed power	155 kW
	3x380 V - 50 Hz (or as required)
Compressed air requirements	660000 Nl/h at 0.6 Mpa (6 bar)
Water requirements	60 m^3/h at 25°C (recirculating)
Gas requirements	300000 kCal/h (x4)
- LPG	13.5 Nm3/h at 35 mbar (x4)
- Natural gas	35 Nm3/h at 20 mbar (x4)
Exhaust suction requirements	
- melting pot	500 m^3/h (x2)
- casting wheel	150 m^3/h

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