INDUSTRIAL GRID GRAVITY CASTING MACHINE

» Fully automatic machine for casting traditional, low-antimony or lead-calcium alloys, as to meet the requirements of the main traction and stationary battery applications.

» Production speed: 3-9 castings per minute, depending on the selected alloy/grid features
SOVEMA INDUSTRIAL GRID GRAVITY CASTING MACHINE

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All machine parts are specially designed aimed to get the best flexibility and reliability rate.

The standard machine supply includes:
- closed lead pouring ladle, pneumatically operated and shielded by gas flames to prevent alloy oxidation;
- lead drip removal device;
- heating by electrical heaters, immersed in the lead and thermostatically controlled;
- pneumatically operated mould opening/closing and grid ejection mechanisms; the two systems are independent one from the other and enable different setting of speed, stroke and time.
- two cooling systems, complete of manifolds, flexible pipes and taps (the first for the fixed and movable mould, the second for the trim die and the grid tilting transfer plate);
- to be supplied on demand: RECIRCULATION AND TEMPERATURE CONTROL UNIT OF THE COOLING FLUID.
- grid transfer system, perfect for the handling of soft type grids; the downstream transfer is done by continuous belt geared with two steel rollers, for decelerating and properly align the grids after their ejection.
- grid transfer to the trim die is performed by a tilting plate, with internal water cooling ducts;
- mechanically driven knurled rollers are provided at grid feeding to the die as well as at release, in order to control the grid speed and minimize the free fall distance.
- mechanically operated system for the water-cooled heavy-duty trim die (customized trimming width).
- stacker with adjustable width, for the grid storage and collection.
- main drive motor with variable speed reduction gear.
- motorized internal honeycomb conveyor for the transfer of the trimmed scraps.
- electric control panel offering a complete monitoring of the machine operations: temperature readouts for the mould (3 areas - gate, central and bottom) and the ladle; ammeters for the power absorption of the heaters; digital display of the castings frequency per minute.
- hydraulically operated trim die, complete with separate hydraulic unit.

TECHNICAL DATA

- Production Speed: adjustable between 3 and 9 castings/minute depending on alloy and grid design;
- Product limitation:
  - max overall grid width (including lugs): 640 mm
  - max grid height: 225 mm
  - max grid thickness: 6 mm
- Operators required: one operator each couple of machines
- ELECTRICAL SYSTEM
  - Voltage: 220/380 V (or as required)
  - Frequency: 50 Hz (or as required)
  - Motors:
    - main motor: 1.1 kW
    - lead pump motor: 0.6 kW
  - Heating elements:
    - mould heaters: 8 x 1 kW/each
    - ladle heaters: 6 x 1 kW/each
    - lead delivery pipe heaters: 2 x 0.6 to 1.5 kW/each
- Total installed power: 20 kW
- PNEUMATICAL SYSTEM (compressed air)
  - Working pressure required: 0.6 MPa (6 bar)
  - Average consumption: 1000 l/h
- COOLING FLUID
  - For trimmer and tilting plate:
    - clean filtered water (demineralized water recommended)
    - min. temperature: 5°C
    - max. temperature: 15°C
    - min. pressure: 0.2 MPa
    - max. pressure: 0.4 MPa
    - average consumption: 200 l/h
- LADLE OXIDATION SHIELDING
  - Gas type:
    - NATURAL GAS
    - LPG GAS
  - Working pressure:
    - min. pressure: 0.002 MPa
    - max. pressure: 0.002 MPa
    - max. consumption: 2 m³/h
    - 1.4 kg/h
- WEIGHT
  - Machine: 2500 kg
  - Mould: 200 kg/each

OVERALL DIMENSIONS (mm)

SOVEMA INDUSTRIAL GRID GRAVITY CASTING MACHINE
TECHNICAL DATA

A LEAD PUMP

- Electrical requirements: 220/380 V, 50 Hz, 3 phase (or as required)
- Electric motor: 0.55 kW
- Weight: 57 kg

B LEAD DOSSING VALVE

- Compressed air requirements: 0.6 MPa (6 bar)
- Weight: 13 kg

C LEAD DELIVERY PIPE

- Power consumption: up to 3 kW, 8 kW

TECHNICAL DATA

Overall Dimensions (mm)

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<tr>
<th>POT VERSION</th>
<th>3 T</th>
<th>4.5 T</th>
<th>3/TE 42</th>
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<tbody>
<tr>
<td>A</td>
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<td>1200</td>
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<tr>
<td>B</td>
<td>780</td>
<td>920</td>
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</table>

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