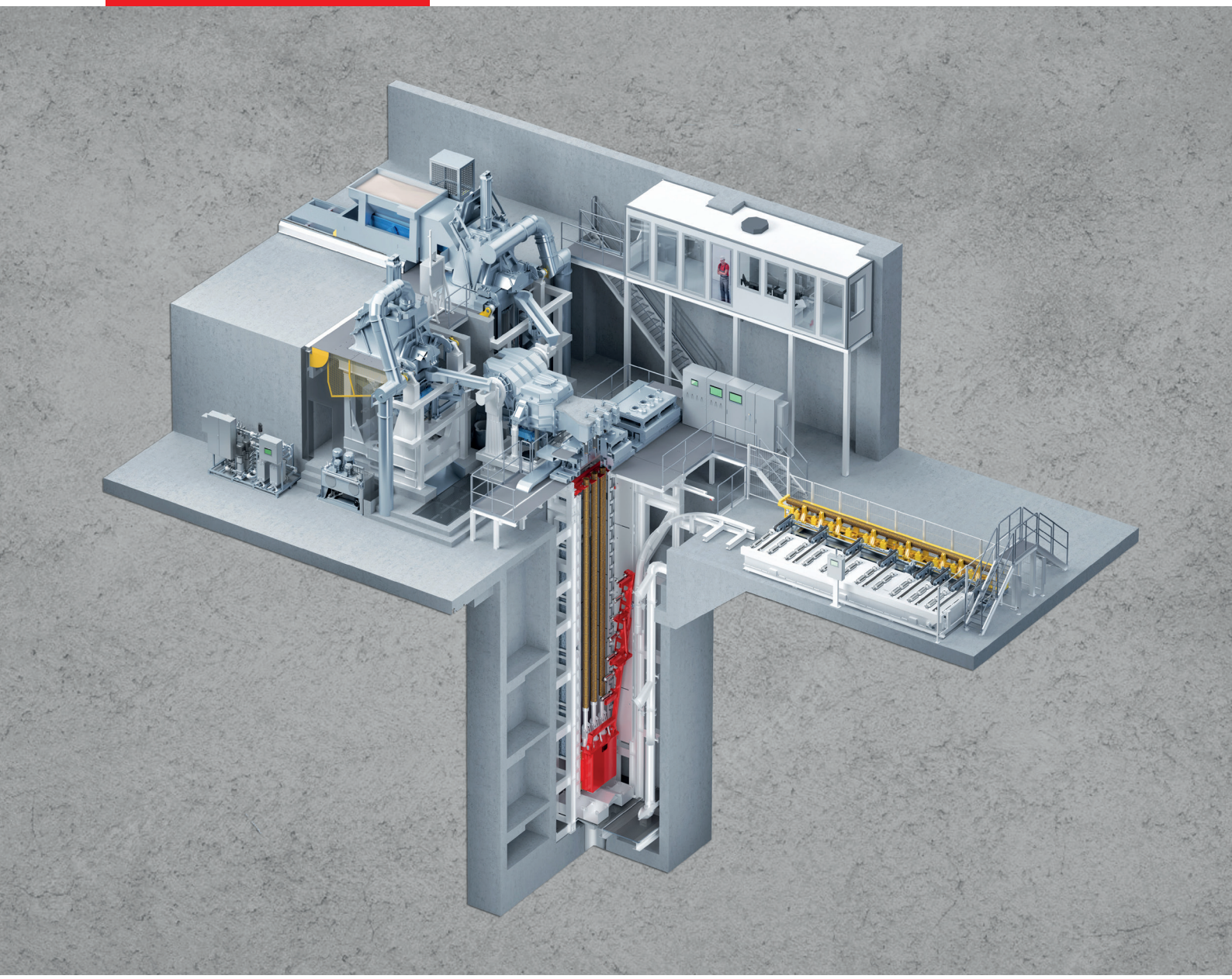


Vertical Semi-Continuous Casting (VSCC)

A Vertical Semi-Continuous plant is designed for single and multi-strand casting of billets and slabs made of copper and copper alloys.
This VSCC system can produce round dimensions up to Ø 350mm and rectangular formats up to 300 x 900mm.

thöni®

The Process

The amount of liquid metal required for the casting process is supplied by the melting furnace and transferred to the holding or casting furnace. Another possibility is direct pouring via a launder with nozzles straight into the mold.

The liquid metal is solidified in the molds. The casting level in the mold is automatically monitored, adjusted and regulated via sensors and controllers.

The heating of the holding and casting furnace is carried out by a flanged, water-cooled mains frequency channel or crucible inductor.

The launder, can be set up with a necessary heating system, depending on the alloy and equipment.

The water-cooled mold in which the liquid metal solidifies homogeneously, is mounted on the casting table with variable oscillation frequency and stroke amplitude adjustments.

The strand is lowered by a lowering table attached to a hydraulic cylinder with a precisely reproducible movement. The strand is then cooled by a subsequential, adjustable spray cooling system.

Finally, after completion of the casting process, the strand is transferred to the discharge device or transported out of the pit with a crane.

The maximum casting length depends on the depth of the casting pit.

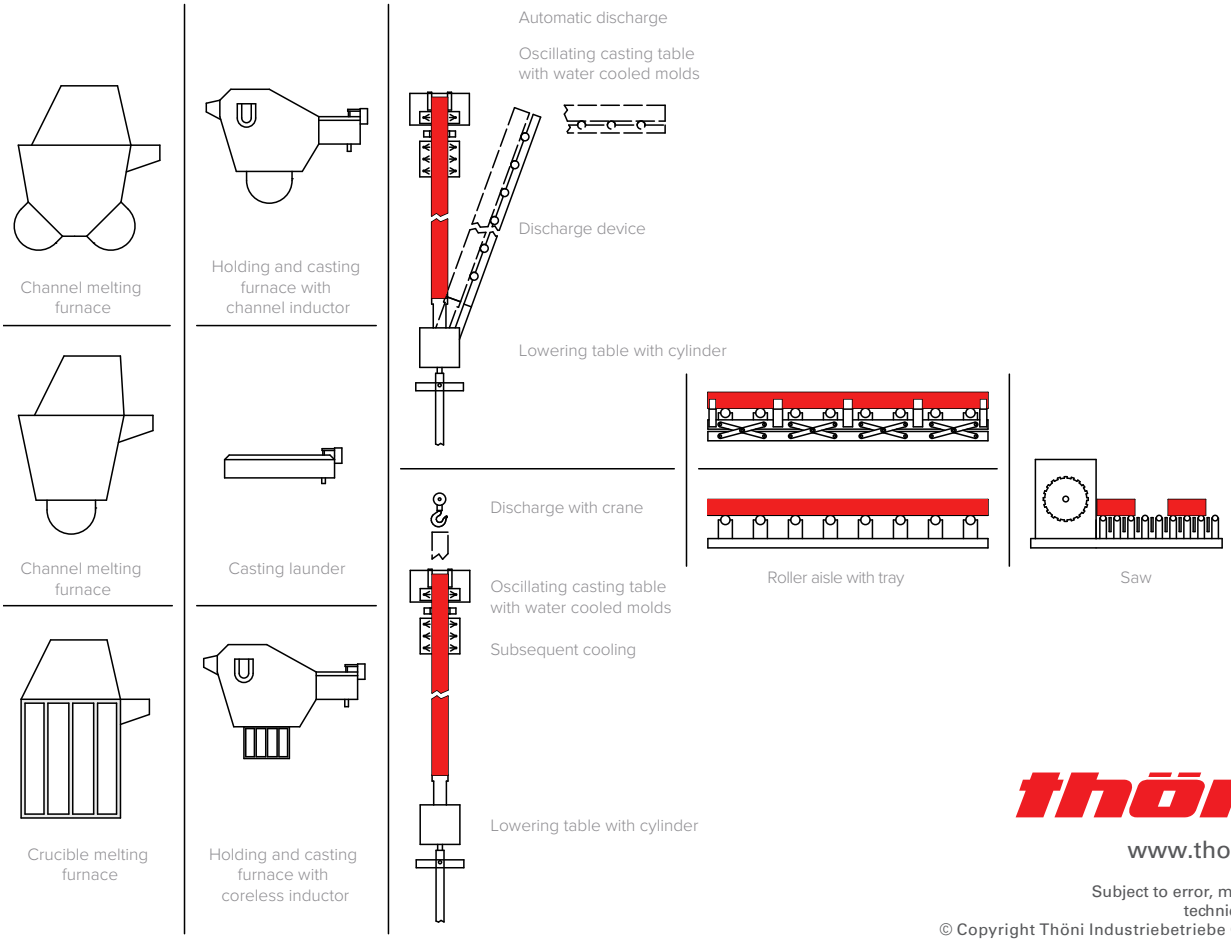
Utilization factor

Due to various influencing factors, production utilization in continuous operation is slightly below 60%. However, this can be increased up to 80% by adding an optional second casting table.

In a three-shift operation, for example, a utilization factor of 0.6 to 0.8 proves to be expedient. This factor includes all manipulation times for mold change and a reduction in production at each start.

The mold must be cleaned, coated and dried each time after the end of a casting, followed by preheating.

In addition, the launder, the plugs and the nozzles must be cleaned and checked.



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