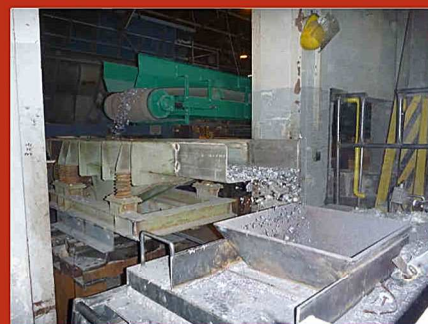
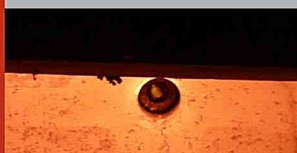
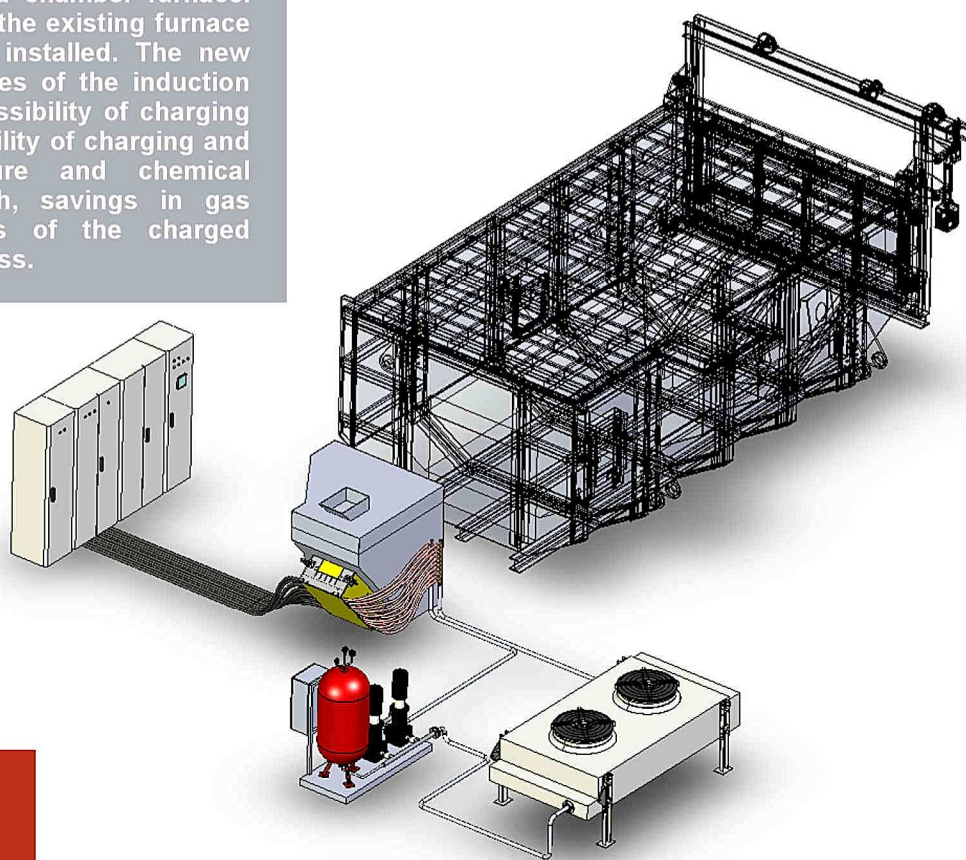


Twin Stream Induction Technology

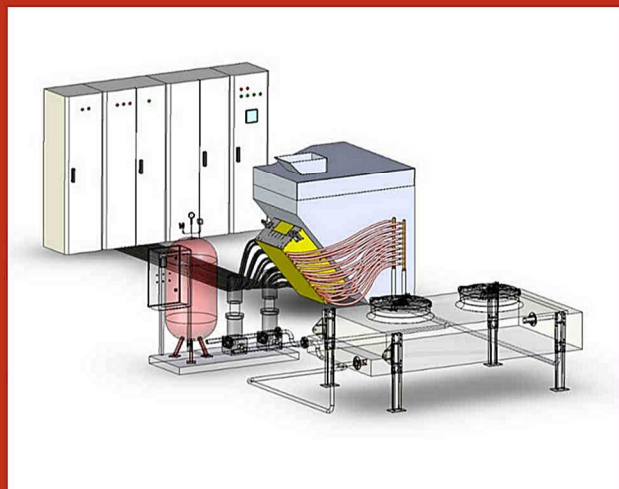
Twin Stream Induction Technology – TSIT is a solution for the foundry owners who want to equip their existing furnaces with an induction stirring of molten metal thus from their old equipment make modern and very effective furnaces. The Stinchcombe Furnaces TSIT is a module that can be installed to almost any type of a chamber furnace. Simply cutting a hole in a wall of the existing furnace where the TSIT module will be installed. The new furnace will get all the advantages of the induction stirring of molten metal like a possibility of charging and melting of light scrap, possibility of charging and alloying of silicon, temperature and chemical homogeneity of the entire bath, savings in gas consumption and lower losses of the charged material during the smelting process.



Stinchcombe Furnaces delivers three sizes of the TSIT

It is necessary to know the following to determine the correct size for a furnace:

- type of the existing furnace
 - melting
 - holding
- maximal height of molten metal in the existing furnace
- capacity of the existing furnace
- heating system power of the existing furnace
- charge type for the TSIT
 - light scrap
 - cleanness of the charge
 - alloying components
 - silicon Si
- charging rate in kg/hour



All the three sizes of the TSIT have the following advantages:

- easy retrofitting of existing furnaces with induction stirring of molten metal
- guaranteed temperature and chemical homogeneity of the bath
- submerging of light scrap, silicon and another alloying components
- less dross creation after installation
- lower gas consumption of the furnace heating system
- intensification of the melting and holding process

TSIT size 1

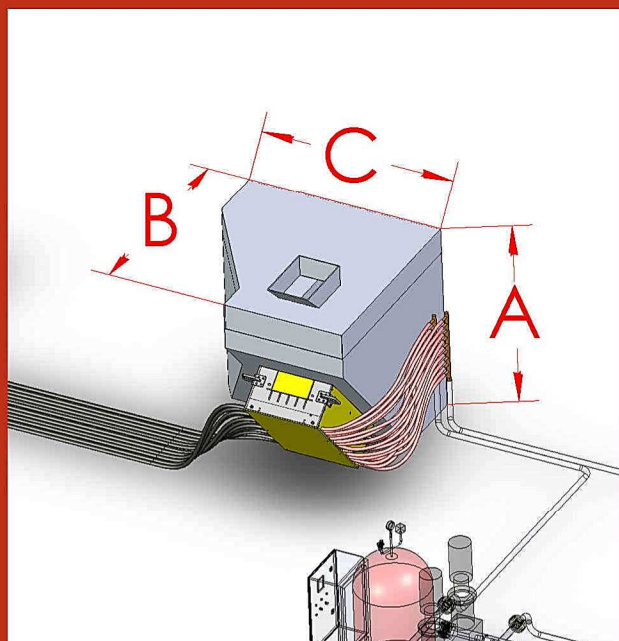
- suitable for chamber furnaces with capacity up to 14 t
- GORS+ inductor power: 30 - 50 kW
- stirring rate up to 5 t/min
- reference dimensions: 1490 x 1470 x 1730 (A x B x C)

TSIT size 2

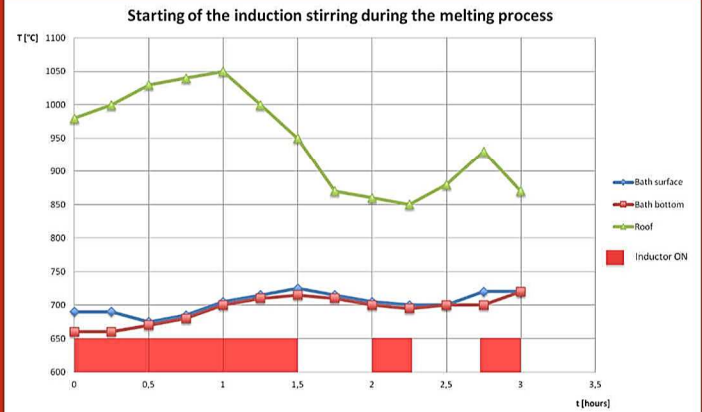
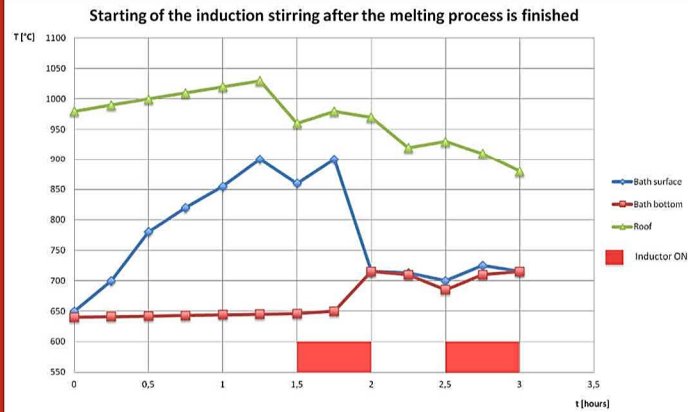
- suitable for chamber furnaces with capacity up to 40 t
- GORS+ inductor power: 60 - 80 kW
- stirring rate up to 8 t/min
- reference dimensions: 1640 x 1670 x 1880 (A x B x C)

TSIT size 3

- suitable for chamber furnaces with capacity up to 90 t
- GORS+ inductor power: 70 - 90 kW
- stirring rate up to 15 t/min
- reference dimensions: 1790 x 1870 x 1880 (A x B x C)



Temperatures in a furnace with the inductor



Changes in a technological process after the inductor installation

Melting process

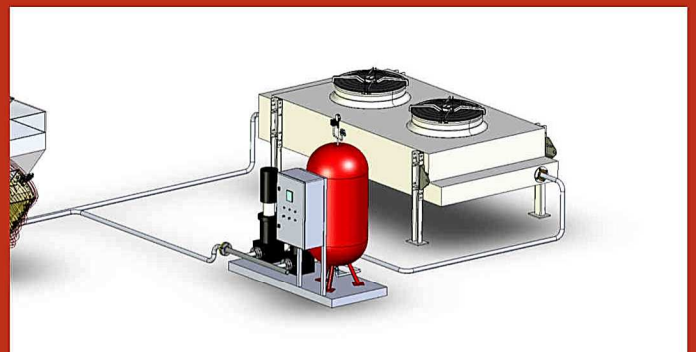
shorter melting cycle	10 - 20 %
shorter burner firing time	5 - 15 %
reduced dross creation	10 - 20 %
decreased fuel consumption	5 - 15 %
electrical energy consumption	4 - 5 kWh/t

Holding process

shorter holding cycle	15 - 30 %
shorter dropping time	20 - 40 %
significant speed-up of alloying process	
decreased fuel consumption	
electrical energy consumption	1 - 2 kWh/t

Inductor cooling system

The inductor cooling system is designed as a closed circuit. It consists of a pumping station with pressure tank, expansion tank, heat exchanger and pipe work. The pumping station pumps the coolant through the inductor and cools it down, so that it can be in continuous operation. The warm coolant after passing the inductor is cooled down in the heat exchanger. The coolant is an antifreeze. This kind of cooling allows the application of the system even under conditions of high frost. The result is low-maintenance cost and long term reliability.





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