TOPCAST SRL
Via Leopoldo di Toscana, 9-11
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TCC – Vacuum Continuous Casting Machines

TCC Vacuum Continuous Casting machines have been design with the most up-to-date technologies to give you semi-finished products with the best quality and in the shortest time.
With only one machine, you will be able to obtain the semi-finished product you desire, such as wires, sheets or tubes.

TCC machines are equipped with Gas Wash Purge procedure which removes oxygen with the vacuum pump and fills back the melting chamber with inert gas, preventing the oxidation of the alloy in a very fast and efficient way.

Medium frequency induction heating stirs the melted alloy and leads to a perfect homogeneity, while the temperature is constantly monitored by two independent thermocouples positioned inside the crucible and stopper rod.

As on option, it is possible to have an additional vacuum loading chamber, positioned on top of the cover with automatic crucible feeding mechanism, for continuous production.

Moreover, a second induction generator can be provided for independent die heating. It helps to restart the furnace whenever the bar get solidified inside the die.

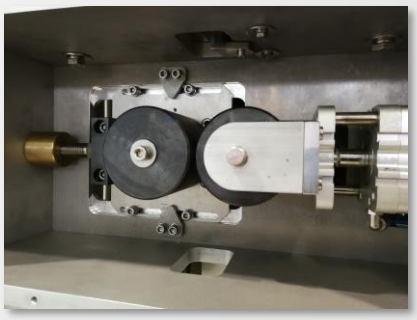
During drawing, the temperature of the die is constantly monitored by a thermocouple with feedback control on the pulling speed (or, optionally, on the water cooling rate). In addition, there are two independent temperature controls for preventing liquid metal leakage, one of them with an optical pyrometer aiming directly on the bar coming out from the die.

Pulling unit is equipped with devices for automatic detection of slippage phenomena between the roller and the semi-finished product. Another device will also detects the end of the cycle, when the bar reaches its end. Pulling unit is available on request with 4 wheels.

To reduce the risk of oxidation during drawing, the semi-finished products are under a constant inert gas flushing as they come out of the die. Drawing unit can be equipped with a video camera for remote supervision.

In addition, when a quicker cooling is required, semi-finished products can be cooled down by a direct water sprinkle aiming on their profile.

Hydraulic cutting on the run is available on request, with automatic and programmable measurement of the profile length.



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Technical details:

	Small				Medium		Large	
	TCC10-280cc	**TCC12-380cc**	**TCC12-500cc**	**TCC12-700cc**	**TCC15-1400cc**	**TCC20-2000cc**	**TCC35-4000cc**	**TCC45-7000cc**
Number of casting programs	100	100	100	100	100	100	unlimited	unlimited
Crucible working capacity	1.5 Kg Ag	2 Kg Ag	3 Kg Ag	4 Kg Ag	8.5 Kg Ag	12 Kg Ag	25 Kg Ag	44 Kg Ag
	3 Kg Au	4 Kg Au	5.5 Kg Au	8 Kg Au	16 Kg Au	23 Kg Au	46 Kg Au	81 Kg Au
Speed of the pulling unit	min 10 mm/min							
	max 999 mm/min							
Wire diameter	min 3 - max 15 mm ⌀				min 4 - max 30 mm ⌀		min 5 - max 40 mm ⌀	
Simultaneous wire casting	max 2 wires				max 3 wires		max 6 wires	
Sheet size (lxw)	max 60 x 8 mm				max 100 x 10 mm		max 130 x 20 mm	
Tube diameter	min 10 - max 45 mm ⌀				min 10 - max 85 mm ⌀		min 12 - max 85 mm ⌀	
Profile protection with protective gas flushing	●	●	●	●	●	●	●	●
Automatic crucible feeding unit							○	○
Extra induction generator					○	○	○	○
4 wheels pulling unit	○	○	○	○	○	○	○	○
Cooling system by water sprinkles	○	○	○	○	○	○	○	○
Video camera for remote supervision							○	○
Hydraulic cutting unit on the run					○	○	○	○
Induction heating power	10 kW	12 kW	12 kW	12 kW	15 kW	20 kW	35 kW	45 kW
Vacuum pump	Built-in 25 m3/h							
Max. temperature	1250 °C / 1500 °C							
Granulation unit	○	○	○	○	○	○	○	○
Autotest with data report	●	●	●	●	●	●	●	●
Monitoring system for data acquisition	○	○	○	○	○	○	●	●
Vacuum leakage detector	●	●	●	●	●	●	●	●
Oxygen Analyzer							○	○
Remote interface							●	●
Main alloys	● Gold (Au), Silver (Ag), Copper (Cu), Brass, Bronze, Aluminium (Al) and their alloys, ○ Magnesium							

● Provided; ○ Available on request

For additional info or for a quotation, please contact us:
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www.topcast.it