

ALD Vacuum Technologies

High Tech is our Business

VIM-IC

Vacuum Induction Melting – Investment Casting



VIM-IC

High Volume Production Systems

for turbine blades, vanes, impellers and structural parts to meet the highest specifications from the

- Aircraft industry
- Power generators
- Automotive industry
- Medical/chemical/electronic industries





Directionally Solidified (DS)

Single Crystal (SC)



ALD are world leaders in Vacuum Investment Casting Technology. Our equipment design is based on detailed process know how and extensive long term experience. Our tailor-made solutions offer

- Optimum mold heating devices, with either resistance or induction heating.
- Broad range of cooling technologies from radiation cooling to complex liquid metal cooling.



VIM-IC

Furnace Design for Easy Operation and Comfortable Maintenance

VIM-IC 10 E/DS/SC with induction mold heater and large service platform

ALD furnaces are industrial systems – designed for easy operation, comfortable maintenance, high casting qualities and production volumes. Details have been improved through decades of experience in the field. The result: market leading production technology. 0



- 3 Tilting device and power lead
- for induction coil



Special Casting Furnaces

Horizontal Furnaces for the Production of Large E and DS/SC Components with Vibration-free Withdrawel and Central Baffle with Heat Sink



Liquid Metal Cooling (LMC) – with Advanced Cooling Technology

The LMC Technology is of particular interest for the production of large DS/SC components where specific thermal gradients are required to enhance quality and productivity.

ALD has built several LMC furnaces to cast weights up to 150 kg and mold dimensions of 800 mm dia. and 1000 mm height.



Tin bath container with stirring devices for molds dia. 800 mm x height 1000 mm







VIM-IC

ALD Solution Provider with Market Leading Casting Technology based on

50 years experience
Hundreds of installations
Customized systems for a large variety of products and processes



Vertical furnace for the production of blades, vanes and structural parts for aircraft engines and industrial gas turbines



Mass production of turbo charger impellers



Customized Systems

ALD cover a melt weight range from

- 1 kg to 750 kg for all kind of processes:Small single chamber furnaces for turbo charger wheels
- Vertical multiple chamber furnaces for turbine blades
- Horizontal multiple chamber furnaces for large structural parts

We are able to customize our systems to your individual requirements.



VIM-IC



Technical Data Standard Furnace Types Solidification Mode		VIM-IC 5 E/DS/SC	VIM-IC 10 E/DS/SC	VIM-IC 20 E/DS/SC
Nominal Furnace Capacity	[liters]	5	10	20
Max. Cast Weight (Ni-Base-Alloy)	[kg]	50	100	200
Max. E-Mold Diameter x Height	[mm]	500 x 600	900 x 1000	1000 x 1300
Max. DS/SC-Mold Diameter	[mm]	400 x 500	600 x 760	800 x 900
Standard Melt Power Supply	[kW]	150/175	200/250	250/350
Typical Operation Vacuum	[Pa]	0.05 - 0.5	0.05 - 0.5	0.5
Cooling Water Consumption for E-Furnace for DS/SC-Furnace	[l/min] [l/min]	330 450	380 540	430 650
Connected Load (with Melt Power Supply for E-Furnace for DS/SC-Furnace	/) [kVA] [kVA]	300 400	450 580	600 700
System Dimensions Length x Width x Height Pit Depth	[m] [m]	6 x 7 x 6 3	7 x 8 x 7.6 3.6	8 x 8 x 8.6 4
Technical Data Special Furnace Types Solidification Mode		VIM-IC 40 E/DS/SC	VIM-IC 1 DS/SC/LMC	VIM-IC 1 E
Nominal Furnace Capacity	[liters]	40	1	1,5
Max. Cast Weight (Ni-Base-Alloy)	[kg]	500	5	12
Max. E-Mold Diameter x Height	[mm]	1500 x 1800	-	400 x 500
Max. DS/SC-Mold Diameter	[mm]	1000 x 1500	150 x 300	-
Standard Melt Power Supply	[kW]	350/450	60	150
Typical Operation Vacuum	[Pa]	0.5	0.05	5
Cooling Water Consumption for E-Furnace for DS/SC-Furnace	[l/min] [l/min]	950 1250	- 220	230
Connected Load (with Melt Power Supply for E-Furnace for DS/SC-Furnace	/) [kVA] [kVA]	900 1300	- 180	200
System Dimensions Length x Width x Height Pit Denth	[m] [m]	15 x 10 x 7.5 no pit	8 x 7 x 4 no pit	5 x 4 x 3.5 no pit

Additional Versions on Request

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