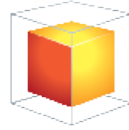


FURNACE OVERVIEW

DESCRIPTION & APPLICATIONS



ECM USA inc
VACUUM FURNACES

From industrial to lab applications, there is an ECM vacuum furnace that fits your heat treating needs. With more than 200 installations worldwide and more than 1000 heating cells produced in the world today, let our expertise guide your new or updated heat treat production goals. Not sure which product is best for your heat treating process? Contact us today and we will help you determine which furnace is right for you.



ECO eco-friendly

Eco-friendly sustainable carburizing alternative for sealed quench-batch IQ furnaces. No CO2 emissions & no open flames, quiet, clean and increased productivity. *Vacuum carburizing, vacuum carbonitriding, hardening, precipitation hardening, annealing, brazing, sintering*



MONO single chamber

Ideal for smaller production facilities to bring heat treating in-house. The cooling phase is performed with inert gas in the heating chamber. *Vacuum carburizing, carbonitriding, quenching, neutral hardening, nitriding, annealing, brazing, sintering*



FLEX modular

Oil quenching (hot or cold), HPGQ, reversible (up to 20 bar) and heating cells, flexible for multiple processes and max. capacity. Adaptable for total automation. *Carburizing, carbonitriding, ferritic nitrocarburizing, hardening, post oxidation, high temp. tempering, annealing, brazing, sintering*



JUMBO high volume

Modular for high volume throughput, of low pressure carburizing or hardening – workloads up to 1000kg. HPGQ and Hot/cold Oil Quenching. Adaptable for total automation. *Carburizing, carbonitriding, hardening, high temperature tempering, ferritic nitrocarburizing, post oxidation, annealing, brazing, sintering*



NANO compact

3-6 vacuum heating cells integrated with HPGQ to 20 bar. Ideal for small batch processing and one-piece-flow for in-line production. Adaptable for total automation. *Vacuum carburizing, vacuum carbonitriding, hardening, high temperature tempering, vacuum annealing, brazing, sintering*

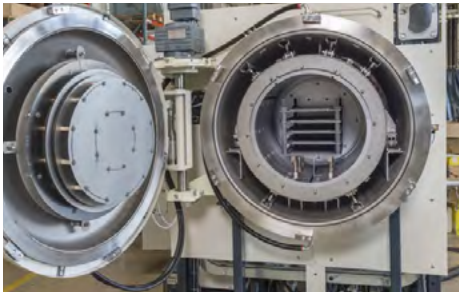


PFTH vertical oil quench

Vertical vacuum oil quenching furnace with LPC capabilities for the treatment of large size parts including gears, shafts, landing gear and similar applications. *Low pressure carburizing, oil quenching under pressure, tempering*

**SALES
SERVICE
AFTERSALES**

Dennis Beauchesne, General Manager (336) 210-5316 dennisbeauchesne@ecm-usa.com
Simon Viarouge, Service Manager (262) 914-7477 simonviarouge@ecm-usa.com
John Graf, Product Engineer & Purchasing (262) 925-6327 johngraf@ecm-usa.com



FULGURA multi-flow

Multi-flow quenching furnace up to 12 bar produces low amplitude homogeneities and highly uniform results. *Tool steel quenching, stainless steel hyper quench, brazing, low pressure carburizing, tempering, nitriding, annealing, ageing, sintering*



TURQUOISE horizontal

Primary or secondary vacuum heat treat for oxidation-prone alloys (nickel, titanium, cobalt, molybdenum, etc) & additive manufacturing. *Stress relieving, annealing, ageing, solution treatment, brazing, sintering, 3D additive manufacturing treatments*



LILLIPUT lab & testing

Compact furnace particularly adapted for laboratory, university and R&D applications up to 3000°C. *Brazing, glass to metal sealing, annealing, magnetic annealing, sintering, degassing*



CRISTAL bell furnace

Insulated with specific metals resistors (molybdenum or tungsten) & perfect for clean treatments at high temperature up to 3000°C. *Tempering, magnetic/bright annealing, hyper gas quench hardening, degassing, sintering, glass to metal sealing, brazing*



VESUVE nitriding

Hot wall forced convection furnace designed for nitriding applications to increase gaseous exchange in a tight heat-resistant steel muffle. *Ageing, degassing, ferritic nitrocarburizing, nitriding, post oxidation, stress relieving, tempering*



JIPELEC RTP/RTA

Jipelec™ rapid thermal processing and annealing semiconductor manufacturing for rapid sample heating to high temperatures with short processes. *Annealing, nitridation, oxidation, diffusion, crystallization, densification, stress relieving, RTCVD processes*

	ECO	MONO	FLEX	JUMBO	NANO	PFTH	CRISTAL	FULGURA	TURQUOISE	LILLIPUT	VESUVE	JIPELEC
ADDITIVE MANUFACTURING							●	●	●	●		
ANNEALING	●	●	●	●	●	●	●	●	●	●		●
AGEING	●	●	●	●	●	●	●	●	●	●	●	
BRAZING	●	●	●	●	●	●	●	●	●	●		
CARBONITRIDING	●	●	●	●	●	●		●				
CARBURIZING	●	●	●	●	●	●		●				
DEGASSING							●	●	●	●	●	
DEPOSITION (RTCVD)												●
FERRITIC NITROCARBURIZING (FNC)			●	●							●	
HARDENING	●	●	●	●	●	●	●	●				
NITRIDING		●	●	●	●			●			●	
POST OXIDATION			●	●							●	
RAPID THERMAL PROCESSING (RTP)												●
SINTERING	●	●	●	●	●		●	●	●	●	●	
STRESS RELIEVING							●	●	●	●	●	●
TEMPERING	●	●	●	●	●	●	●	●	●	●	●	



ABOUT ECM USA The US subsidiary of ECM Technologies of Grenoble, France, ECM USA is the leading manufacturer of vacuum furnaces and automated solutions provider for all heat treat industries in the Americas. ECM's complete heat treat systems work on one PLC based system, which includes: preheating, automation, heat treating (low pressure carburizing, carbonitriding, neutral hardening - with oil or gas quenching) and tempering equipment.