

# KNIVES, FIREARMS & AMMUNITION HEAT TREATING



Utilizing an ECM vacuum furnace system for heat treating your knives, firearms components, and ammunition not only improves surface hardness qualities, but significantly reduces cycle time, optimizes energy consumption and thereby improves productivity.

	ECO	MONO	FLEX	JUMBO	NANO	CRISTAL	FULGURA	VESUVE
ADDITIVE MFG						●	●	
ANNEALING	●	●	●	●	●	●	●	
AGEING	●	●	●	●	●	●	●	●
BRAZING	●	●	●	●	●	●	●	
CARBONITRIDING (LPCN)	●	●	●	●	●		●	
CARBURIZING (LPC)	●	●	●	●	●		●	
DEGASSING						●	●	●
FERRITIC NITROCARBURIZING (FNC)			●	●				●
HARDENING	●	●	●	●	●	●	●	
NITRIDING		●	●	●			●	●
POST OXIDATION			●	●				●
SINTERING	●	●	●	●	●	●	●	
STRESS RELIEVING						●	●	●
TEMPERING	●	●	●	●	●	●	●	●

*Ferritic nitrocarburizing is an ideal process in comparison to a standard nitriding process as it takes much less time to achieve case depth requirements - mainly in part due to the addition of carbon to achieve faster diffusion.*

## MOST RECOMMENDED FURNACE SYSTEMS FOR KNIVES & FIREARM MANUFACTURING



### VESUVE nitriding

The Vesuve hot wall forced convection furnace is designed for nitriding applications to increase gaseous exchange in a tight heat-resistant steel muffle.



### 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.



### 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.

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.

ECM USA, Inc. | Pleasant Prairie, WI 53158 USA | (262) 605-4810 | info@ecm-usa.com | www.ecm-usa.com

