



ECM USA Inc
VACUUM FURNACES



3D POST PRINTING Vacuum Furnaces

FOR ADDITIVE MANUFACTURING

- Various furnace volumes
- Vacuum Heat treatments are specifically tailored to alloys prone to oxidation
- Our patented heating element design assures temperature uniformity
- Hot zone designs guarantee clean treatments and avoid contamination
- Optimum atmospheres guaranteed
- Optional accelerated neutral gas cooling is available for increased productivity

TEMPERATURES 600°C 800°C - 900°C 1,600°C

ALLOYS

- Titanium, Nickel
- Copper
- Tungsten
- Stainless Steels
- and more...*

PROCESS

- Debinding & Sintering
- Brazing
- Stress Relieving
- FNC/Nitrocarburizing
- Nitriding

TECHNOLOGY

- Primary Vacuum
- Secondary Vacuum
- Pressure Control
- Controlled Cooling
- Robotic Depowdering

AVAILABLE FUNCTIONS

Hot Zones

- Molybdenum
- Graphite
- Tungsten

Vacuum

- Primary
 - Vane pump
 - Dry pump
 - Roots pump
- Secondary
 - Diffusion pump
 - Turbo pump
 - Cryogenic pump

Gas

- Nitrogen
- Argon
- Hydrogen
- Helium

Atmosphere management

- Mass flow
- Pressure regulation

Standards

- AMS 2750
- AMSH 81200
- AMS 28013
- NFPA
- RIA
- UL

Cooling

- Forced convection Cooling/Quenching
 - < 1.45 bar
 - 5 bar
 - 10 bar
- Variable Speed

Supervision

- Process Control
 - Production tracking
 - Process data backup
 - Historical recording
 - Recipe development & storage

Ergonomics

- Load build considerations
- Automated loading options