

# Continuous Brazing Introduction

## Core Principles and Process (NOCOLOK Process)



### Pre-treatment process

Precision cleaning → Application of specialized flux → Moisture drying → Component assembly and positioning



### Temperature Control Process for Zone 3 in Continuous Furnace

Preheating (300–550°C) activates the flux → Brazing (580–610°C) forms metallurgical bonding → Rapid cooling zone prevents grain coarsening



### Post-processing of finished products

Airtightness pressure test → Industrial X-ray/ultrasonic non-destructive testing

## Comparison of Process Characteristics (CAB vs Vacuum)

CAB: Assembly line production · Low cost · Requires flux · Suitable for mass production of standard parts  
 Vacuum: Batch processing · High cost · Zero flux agent · Suitable for complex and high-reliability components

## Typical Defects and Solutions

### False welding/Incomplete welding

Calibrate furnace temperature | Reduce chain speed | Enhance cleaning

### Wire material overflow/blockage

Peak temperature reduction | Precise quantitative brazing material

### Stomata/leakage

N<sub>2</sub> purity > 99.999% | Guaranteed positive pressure

### Oxidation-induced blackening/deformation

Oxygen content < 10 ppm | Rigid fixture deformation prevention

## Key Quality Control (Q.C.)



Precision temperature control via PID regulation with temperature deviation  $\leq \pm 2^\circ\text{C}$



High-purity atmosphere: high-purity N<sub>2</sub> in an oxygen-free environment



Chain speed control insulation time  $\geq 2.5$  min



Continuous surface clean water film without droplet adhesion