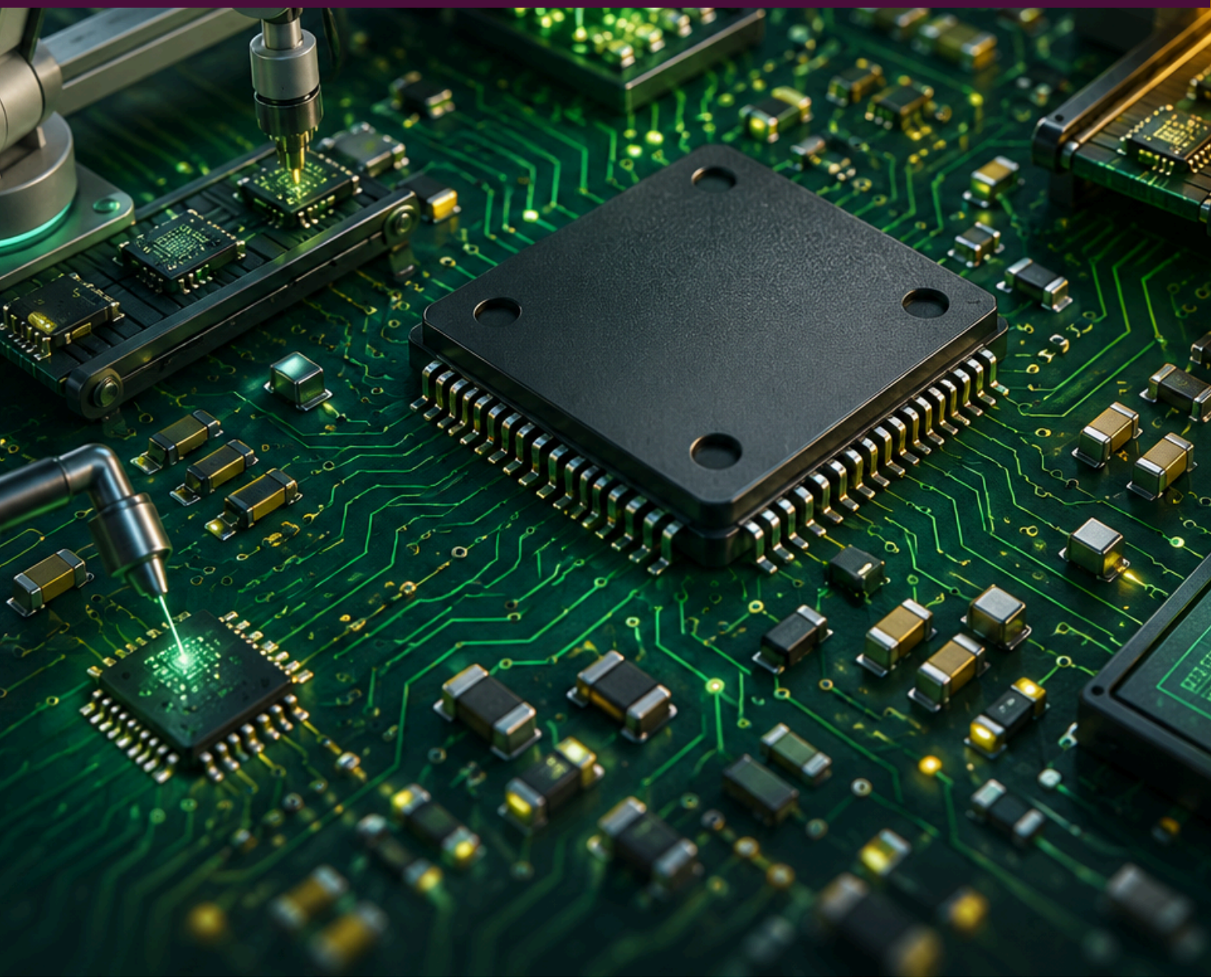
LabTech India



Electronic Manufacturing Services (EMS)

LabTech Analytical Pvt. Ltd.

1st Floor, GB-47, Rajdanga Main Road, Sector E, East Kolkata Township, Kolkata, West Bengal 700 107 GST NO: 19AAFCL6947B1ZD
Email: india@labtechindia.co.in

Introduction:

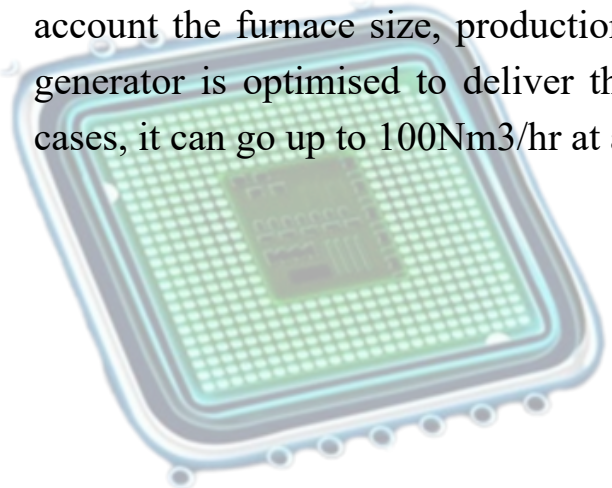
Companies providing Electronic Manufacturing Services (EMS) do manufacturing, assembling, testing, and system integration of electronic components for OEMs, which helps OEMs in lowering their operational costs and focus on their core business.

Role of Nitrogen Gas in EMS

In practical terms, Nitrogen is considered an inert, non-reactive gas that provides shielding in high-thermal processes such as wave and reflow soldering. In reflow oven chambers, nitrogen displaces the oxygen and prevents oxidation, reduces solder dross, and minimizes void formation. This significantly improves solder joint integrity and wettability, ensuring the long-term reliability of electronic components.
Compared to other inert gases like argon or helium, which can also perform the same task, nitrogen is abundant in nature and is more economical to produce on-site.

- **Purity Level:** Nitrogen purity plays an essential role in the EMS soldering process. Pure nitrogen is required to displace the oxygen concentration to approximately 1000 ppm or lower. Nitrogen gas with purity between 99.95% and 99.995% is the most suitable choice to maintain balance between performance and process cost.

- **Flow Rate and Pressure:** Depending on the consumption in the process, taking into account the furnace size, production throughput, and target oxygen concentration, the generator is optimised to deliver the required flow rate. It can vary widely; in some cases, it can go up to 100Nm3/hr at a maximum pressure of up to 8 bar.



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NITROGEN: THE SMART CHOICE FOR HIGH-THERMAL SOLDERING

Inert. Non-reactive. Reliable. Economical.



On-site **Pressure Swing Adsorption (PSA)** nitrogen gas generators are the most cost-effective, dependable, and safe way to generate and supply nitrogen for industrial operations. PSA systems extract high-purity nitrogen directly from compressed air on-site, decreasing reliance on third-party gas vendors.

- Major Cost Reductions
- Unmatched Supply Reliability & Autonomy
- On-Demand Purity Control
- Enhanced Workplace Safety
- Environmental & Sustainability Advantages

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LabTech Range of Products

Nitrogen Gas Generator from ErreDue S.P.A

Specifications:

- PSA-based technology
- Flow rate from 10Nm3/hr to 500Nm3/hr
- Output gas purity up to 99.9995% (Patented Technology with Saturn)
- PLC Control Panel included
- Best Suitable for Industrial Process like MAP Packaging, Inertization, Thermal treatment of metals, etc.
- RS485 & Ethernet connections available



Venus Nitrogen System



Saturn Nitrogen System



Containerized On-site nitrogen production plant at the Brembo plant in Thailand with a total capacity of 100 Nm3/hr

Image Source: LinkedIn

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