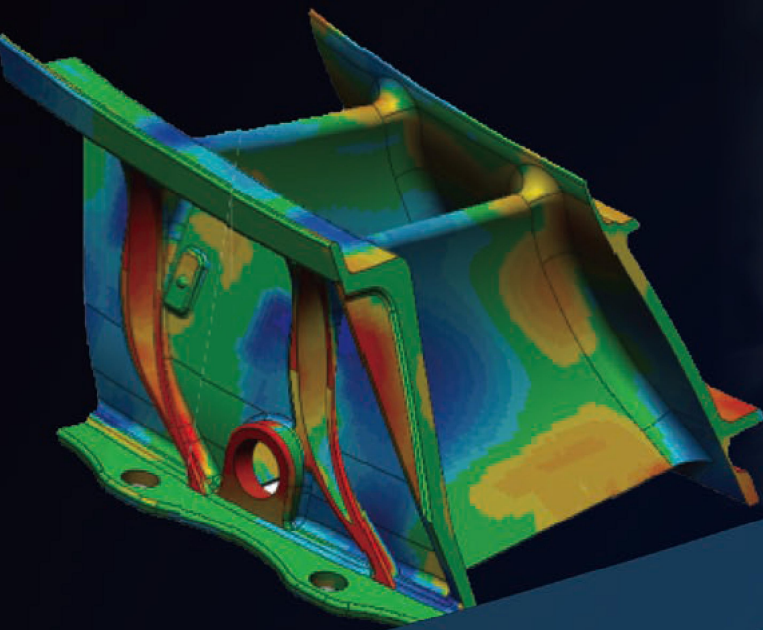




TAIYO NIPPON SAN SO
The Gas Professionals

TNSC Gas Application Technology

Additive Manufacturing



Gas Technologies × Additive Manufacturing

Gas Supply

For metal 3D printing, in addition to printers and materials, it is necessary to stably supply atmospheric gases, such as Ar and N₂.

Based on years of experience, we can supply atmospheric gases with various forms, such as gas cylinder, liquefied gas, PSA etc. according to required gas type and usage.



Cylinder Gases



PSA System



Bulk Gases

Printer and Manufacturing

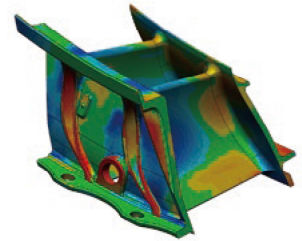
Optomec, founded in 1997, is the manufacturer of 3D metal printers in Albuquerque NM, US.

Optomec sells LENS systems which adopt Laser Metal Deposition (LMD) method, and has been rapidly growing in the 3D Metal printer market with the largest share of LMD printers in the world. In addition to sales of LENS equipment, TNSC provide equipment installation support, technical support and suitable atmospheric gases.

Sintavia, founded in 2012, is the global leader for independent metal AM for critical industries and holds AS9100, ISO 17025, and ANAB accreditation, as well as being OASIS and ITAR registered.

Sintavia is a leading advanced manufacturer with a vertically aligned process for optimized metal AM parts. Sintavia specializes in design, powder analysis, AM processing, post processing, and mechanical testing in a single quality controlled facility.

TNSC will introduce Sintavia's manufacturing services and metal parts to our customers.



Gas Technology Solutions

Metal 3D printing technology is also called "micro welding."

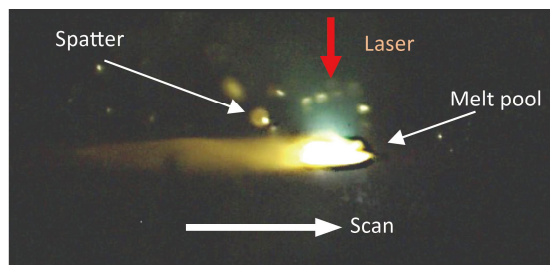
When additively manufacturing, it is necessary to optimize various parameters including atmospheric gas for successful outcomes.

Based on gas handling and welding know-how cultivated over many years as an industrial gas manufacturer, we propose a total solution for atmospheric gas supply for those processes.

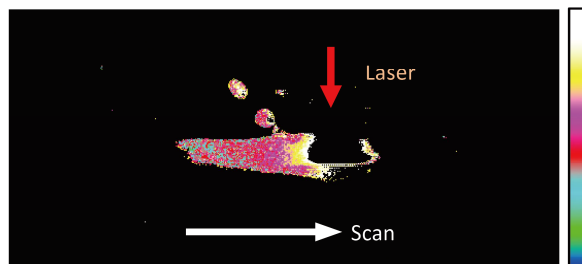
Our Yamanashi laboratory combines various analytical facilities and experience to develop optimized manufacturing conditions.

Technologies at Yamanashi laboratory:

- 1) Visualization of AM process by high speed camera
- 2) Optimization of AM process with temperature distribution analysis by thermography
- 3) Atmosphere control and analysis control and analysis of atmospheric gases



Visualized Picture



Thermography Picture

Temp[°C]

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