

Metal Gas Atomizer : MH20B

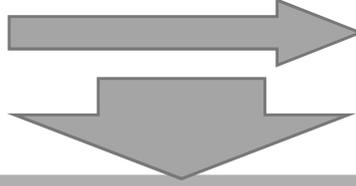
We provide the excellent metal gas atomizers with the high-performance nozzle system developed by "Mitsubishi Power, Ltd." for metal powders of additive manufacturing .



**MITSUBISHI
POWER**

Development of High Performance
Atomizing Nozzle System
applied AM Technology

Technology License



株式会社 真壁技研
MAKABE R&D Co., Ltd.

Sale contract over 30-years
for Metal Gas Atomizers

MH20B is the best apparatus for Additive Manufacturing used in the production of high-quality metal powders (melting capacity up to 20 kg/Fe per batch)

Over **50 % yield** per batch with particle sizes ranging **from 16 μm to 53 μm at Alloy718**

Our product is equipped with a compact atomizing chamber size and a high-quality cooling gas flow system

→ **It's convenient for cleaning the chamber**

(The height from ground to gas-nozzle is about 3 m)

{ Overall view of MH20B }

{ The Packaging Container with
MH20B and Ar-gas Accumulator }



Options:

- ✓ Ability to package into Container due to our compact size design
 - ✓ Our Ar-gas Accumulator is equipped with 30 gas cylinders type of 7 m³
- Advanced design to improve the labor cost

CONTACT US

Supplier:



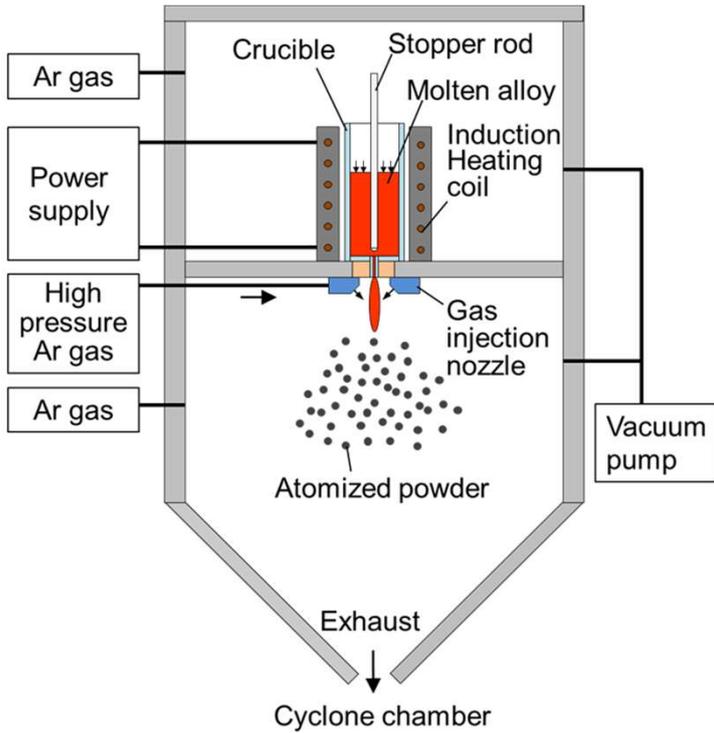
株式会社 真壁技研
MAKABE R&D Co., Ltd.

TEL : +81-22-235-1614

FAX : -81-22-284-8297

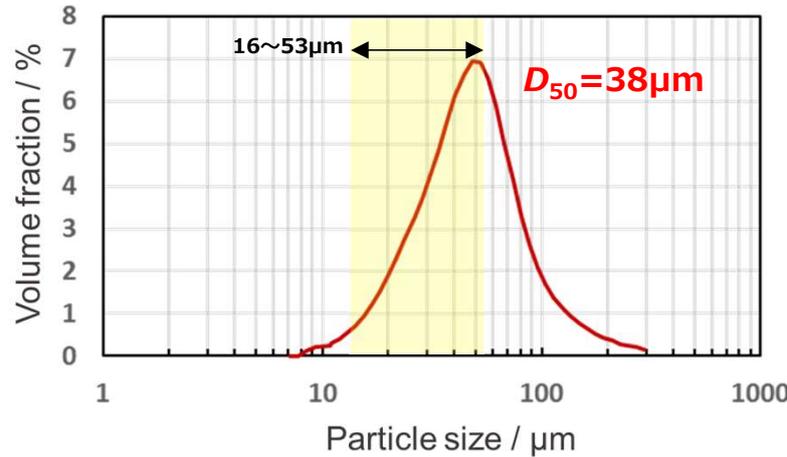
Web : <http://makabe-g.co.jp>

Schematic Illustration of Metal Gas Atomizer

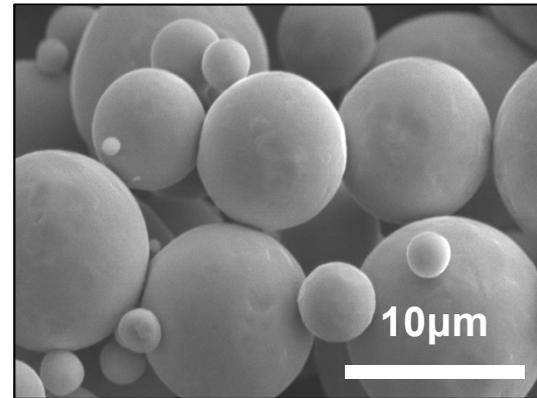


Atomized Alloy718 Powder by MH20B

【Particle Size Distribution】



【SEM Image of Alloy718 Powder】

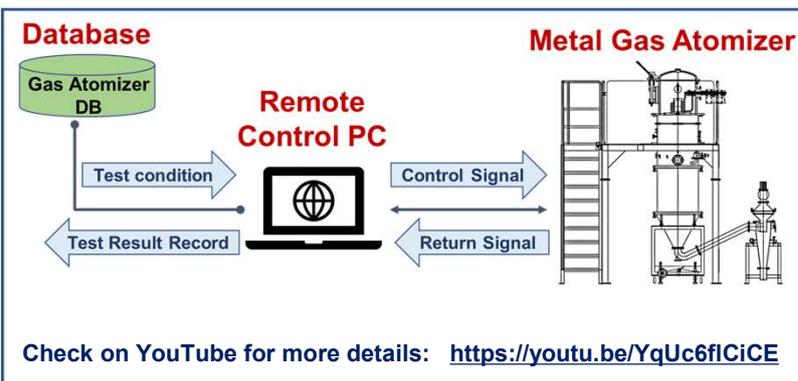


【Atomizing Process Step】

- ① Heating and melting the sample alloy in crucible by induction heating
- ② When the atomizing temperature is reached, apply pressure to melting chamber
- ③ Putting the stopper rod up and the molten alloy flows directly into the melt nozzle
- ④ Injecting high pressure gas via gas nozzle into the melt
- ⑤ Under Ar gas pressure, the molten alloy will be atomized and rapidly solidified

Remote Controlling and Automatic Operating System for MH20B

MH20B is equipped with remote controlling and automatic operating system. This IoT system provide prevent human errors and reduce the labor cost.



【Remote Controlling】

- ✓ You can operate MH20B wherever via internet network
→ **Telework and Remote work support**

【Automatic Operating system】

- ✓ Reduction of the labor costs for three hours per a batch
- ✓ automatically loading and recording the test data
→ **Without recording data by hand**
→ **Structuring a big database for GA test conditions**
- ✓ Automatically Performing of vacuum, heating and atomization process
→ **Preventing human errors**
→ **Without Technology transfer**

About Us

- Design, manufacture and sell for made-to-order experiments and quasi mass-producing for Gas atomizers.
- Commissioning directly gas-atomization tests by our demonstration apparatus at our company in Sendai City (Test performance : 130 batches/year, ability to perform the testing with more than 10 kinds of materials)
- Atomizing materials : [Al-](#), [Mg-](#), [Pt-](#), [Si-](#), [Mn-](#), [Cu-](#), [Fe-](#), [Ni-](#), [Co-](#), [Fe-based alloys](#), [Pure-Fe](#), [Rare-Earth magnets](#), [Iodine compound](#), [Oxide glasses](#), etc



株式会社 眞壁技研
MAKABE R&D Co., Ltd.

3-1-25 Nigatake, Miyagino,
Sendai, Miyagi, 983-0036 Japan
<http://www.makabe-g.co.jp/>

Sales staff : Kosuke Izuka
Tel.+81-80-7237-6052
k.iizuka@makabe-g.co.jp