




ATO LAB+

ULTRASONIC  
LAB SIZE  
METAL POWDER  
ATOMIZER

NECESSITY IS THE MOTHER  
OF INVENTION



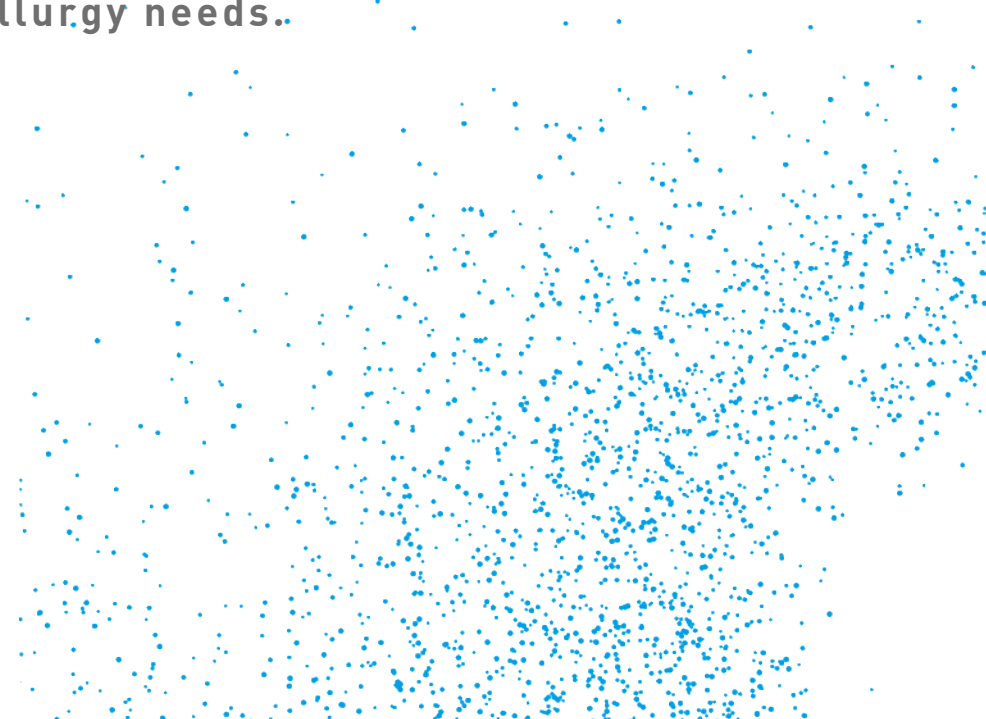
VISIT [WWW.ATOAM.COM/LAB-PLUS](http://WWW.ATOAM.COM/LAB-PLUS)

An abstract graphic in the top left corner consisting of a dense cluster of blue dots and lines, forming a shape that resembles a stylized, fragmented letter 'A' or a particle structure.

# **C O B E Y O N D T H E S T A T E O F T H E A R T**

A horizontal line composed of blue dots and lines, matching the style of the top-left graphic, acting as a visual separator between the title and the text below.

Open a new chapter in your research and development with ATO Lab Plus. Design your own alloys and quickly produce spherical metal powders with high flowability, which is perfect for your Additive Manufacturing and powder metallurgy needs.

A large, sparse cloud of blue dots and lines in the bottom right corner, extending from the bottom edge and right edge of the page, creating a sense of depth and movement.

# DESIGNER POWDER METALLURGY SOLUTION

ATO Lab Plus enables to make metal powder yourself by optimizing the production of both reactive and non-reactive powders on a smaller, self-sufficient scale. Innovate alloy formulations and experiment with various metals and their alloys. We have developed stable procedures for metals and their alloys such as: aluminum, titanium, stainless steel and lots more.



ATO Lab Plus throughput reaches several hundred grams of metal powder per hour with a particle size from 20 to 120  $\mu\text{m}$ .

Additionally, depending on selected ultrasonic ATO Frequency System module, it's possible to produce a specific Particle Size Distribution tailored to user needs.

## KEY FEATURES

- Highest quality powders
- Most compact size
- Wide range of common and customized alloys
- Freedom of the input material choice
- Expand capabilities with ATO modules
- High temperature melting point
- Easy quickest material swap
- Highest safety standards
- Cost-effective production
- Affordable price

## SOFTWARE

The quality of the software is a strong factor for the user's experience. We know this, so we've given ATO Lab Plus a special software that's adaptable and easy to use. Users can run the process through an easy-to-reach touchscreen and precise controls.

We designed this control system to let users easily adjust any setting, including those for the ultrasonic and melting units. Additionally, there's a feature enabling remote control of the atomization process.



# ATO LAB PLUS - ADDITIONAL CAPABILITIES

ATO Lab Plus comes with a vacuum pump, which quickly creates the right environment with very low oxygen levels. This ensures the materials are of the highest chemical purity. Thanks to its tight-sealing chamber, it can make powders of reactive metals and their mixtures, like titanium and aluminum.



## DEDICATED MODULES OF FEEDING SYSTEMS

ATO Lab Plus boosts productivity by offering flexible configurations. Users can choose from several feeding system modules, each designed for specific input materials. Additionally, custom feeders can be provided upon request.



**WIRE**  
FEEDING SYSTEM



**SINGLE ROD**  
FEEDING SYSTEM



**MULTI ROD**  
FEEDING SYSTEM

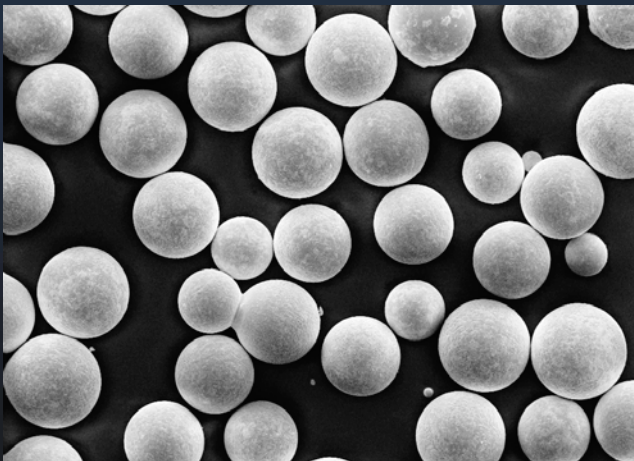


**REVOLVER ROD**  
FEEDING SYSTEM

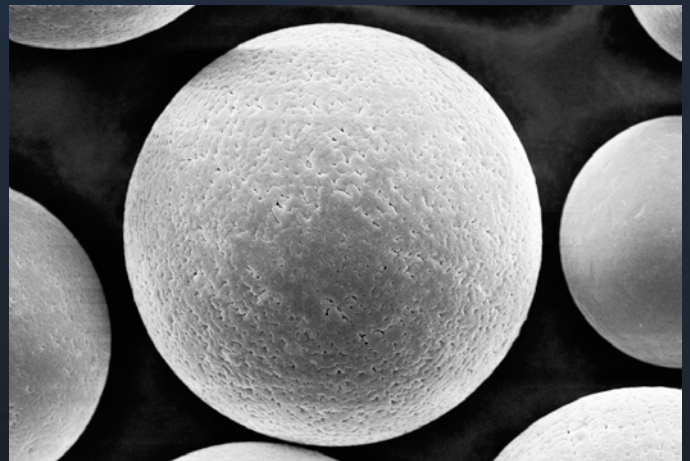


# MAKE METAL POWDER IN YOUR LABORATORY

ATO Lab Plus has been designed by industry-oriented researchers aiming to overcome traditional atomization limitations. ATO Lab Plus has a compact form, making it possible for comfortable usage even in a limited space. Along with its innovative technology and no requirements for sophisticated infrastructure, it ensures exceptionally low operating costs and a quick return on investment.



Unsieved, raw ATO Lab Plus powder, note the uniform size and spherical shape of the particles



A spherical IN718 steel powder particle produced in ATO Lab Plus

## NEXT GENERATION ATOMIZER

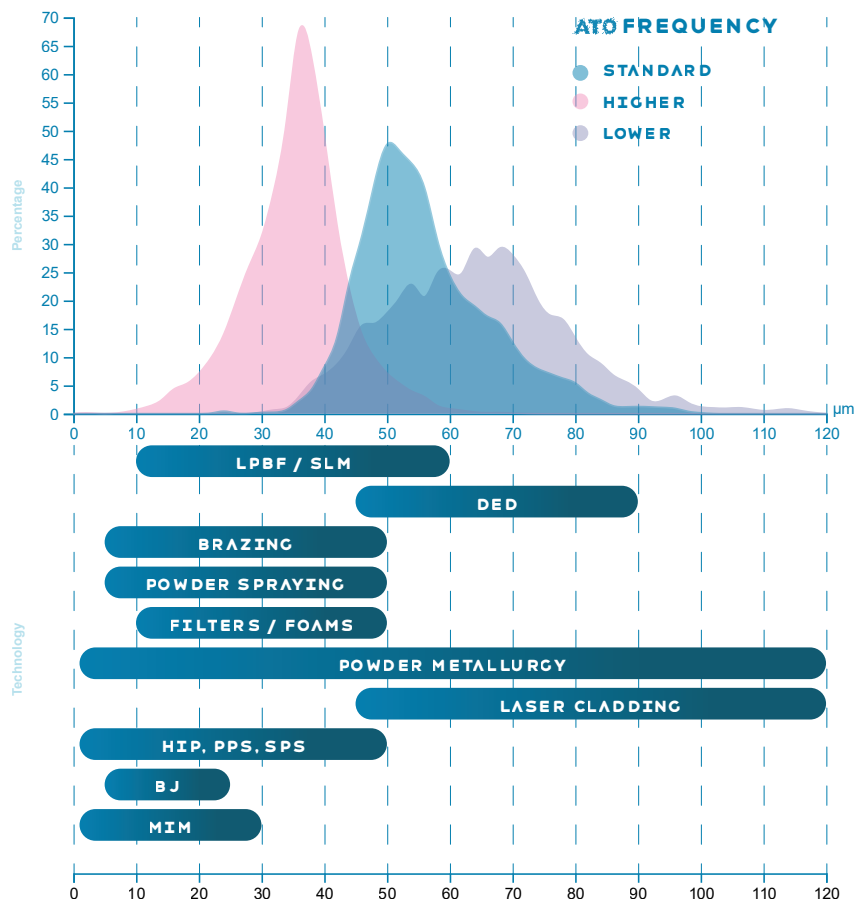
ATO Lab Plus is a unique, compact machine for metal powders production, using a novel ultrasonic atomization technology. This breakthrough solution allows you to quickly produce metal powders with a high flowability and a narrow Particle Size Distribution.

# AFFORDABLE SOLUTION

Compared to other atomization devices available, ATO Lab Plus is more resource-efficient and operates swiftly and economically.

With its compact modular design and unique characteristics, 3D Lab has made ATO Lab Plus affordable for laboratories, small to medium-sized businesses or even start-ups.

# DIVERSE POWDER APPLICATIONS

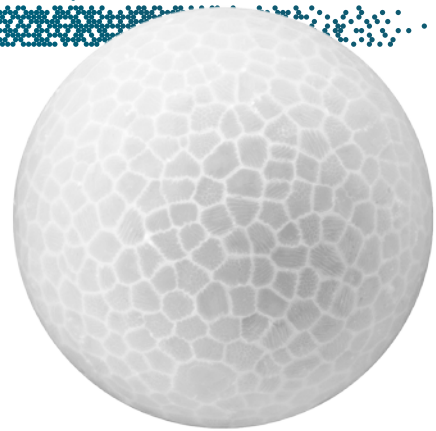


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# DISCOVER THE BREAKTHROUGH IN POWDER PRODUCTION

## SEE THE UNMATCHED PARTICLE QUALITY

Due to the ordered nature of the ultrasonic atomization process, the output powder has a very narrow particle size distribution that depends on the chosen ultrasound frequency.



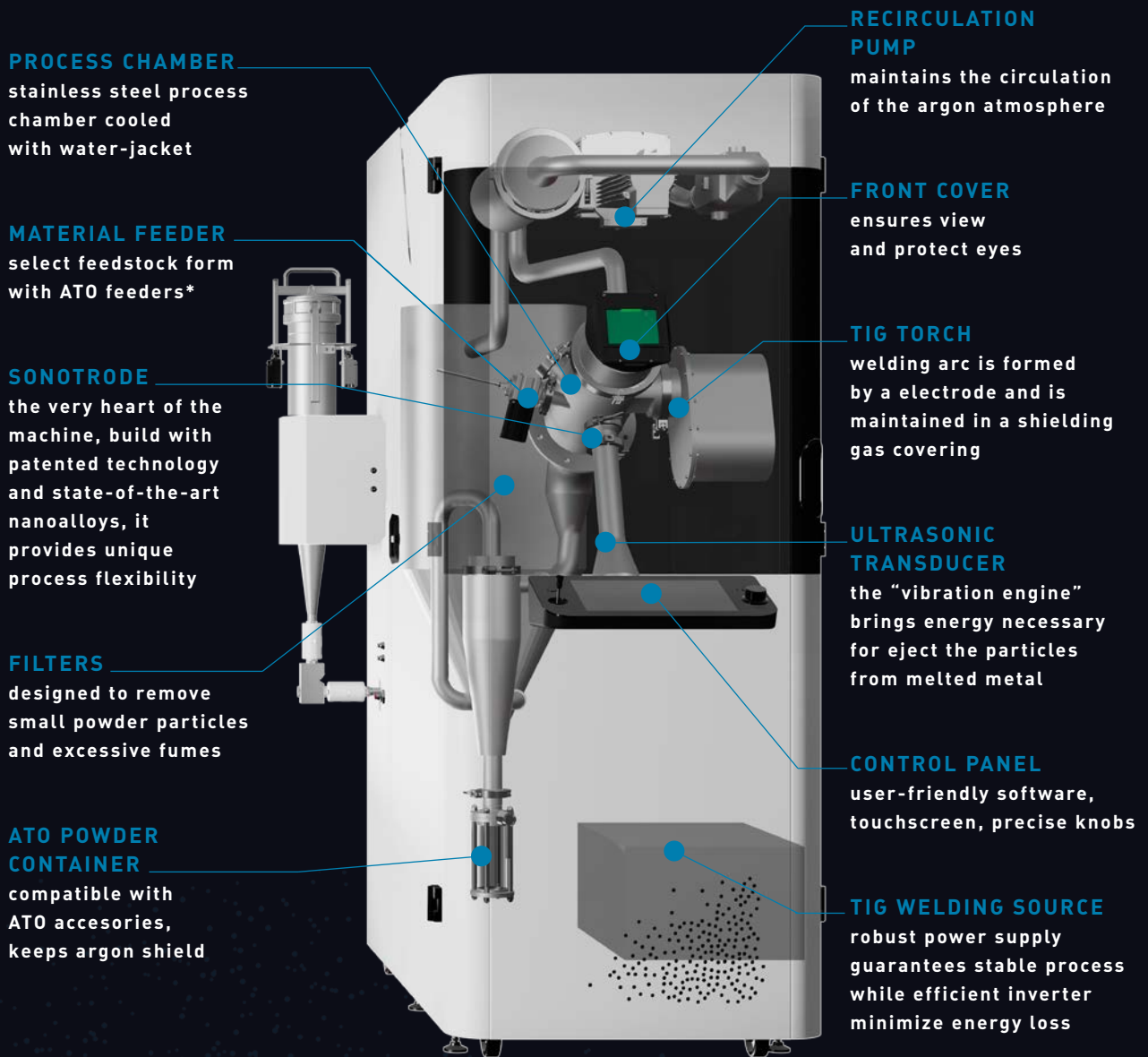
## TAKE YOUR PRODUCTION TO A NEW STAGE

Different melting modules make it possible to overcome the material melting point limitations. ATO LAB Plus can use even very brittle or soft input material, as various dedicated feeding system modules are available to suit any form of feedstock.



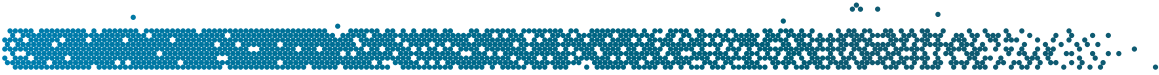


# WITH ATO IN YOUR LAB YOU WILL CHANGE THE WAY OF METAL POWDER PRODUCTION



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/INSIDE

# S P E C I F I C A T I O N



GENERAL INFORMATION	ATO Lab Plus
process	metal powder production
technology	ultrasonic atomization
melting method	TIG / Induction (as module)
sonotrode type	half-wave nanoalloy sonotrode - patented
inert gas flushing method	vacuum pump
cooling method	liquide
processable materials	non-reactive & reactive alloys (e.g. Ti, Al, Zr-based alloys, intermetallics and refractory metals)
powder quality	high flowability, spherical particles shape, narrow PSD, low oxygen content
PSD (particle size distribution)	20-120 um (depends on ultrasonic frequencies)
powder collecting system	cyclone
protective atmosphere preparation time	<15 min
input material	wire, rods, scrap, irregural
certification	CE

## PARAMETERS

ultrasonic frequency	20 / 35 / 52 kHz (upgradable)
O2 level	< 10 ppm
system throughput	up to 0.3 l/h
machine weight (uncrated)	650 kg
size (HxWxD)	1997 x 1070 x 1539 [mm]

## REQUIREMENTS

inert gas	argon
cooling	liquide & compressed air
power supply	400V, 10 kVA / 3 phase
cleaning unit	ultrasonic cleaner (ATO Clean)
powder recycling system	sieving unit (ATO Sieve)

# ATO

TECHNOLOGY



## MAKE METAL POWDER YOURSELF

There is no more need to use the enormous, wildly expensive atomizing sites when all you need is just a piece of your lab space!

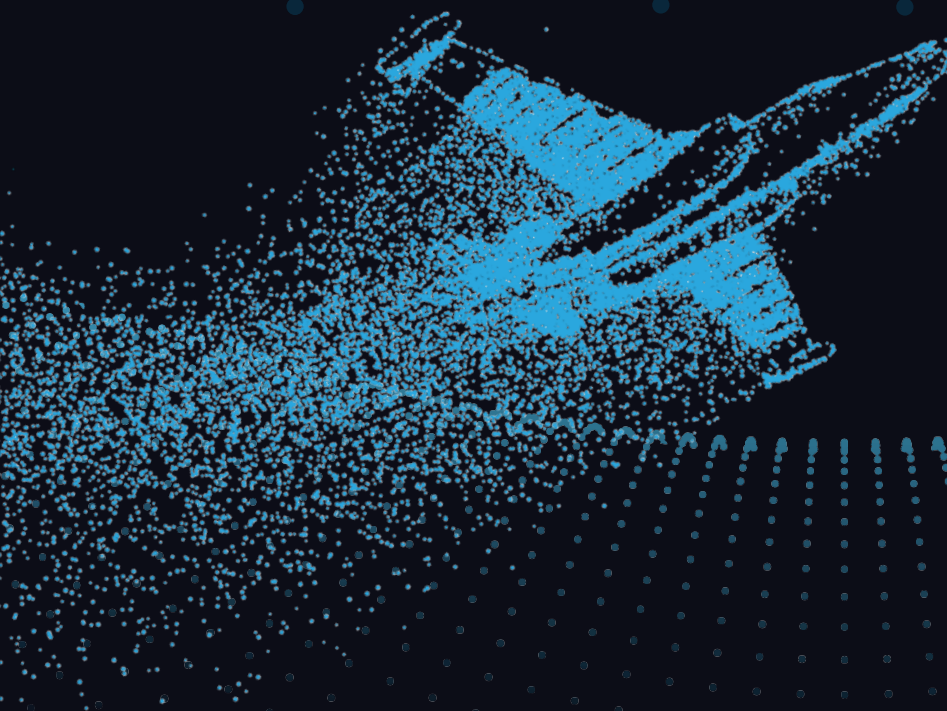


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ATO<sup>+</sup>  
BY 3DLAB

ATO<sup>+</sup>LAB

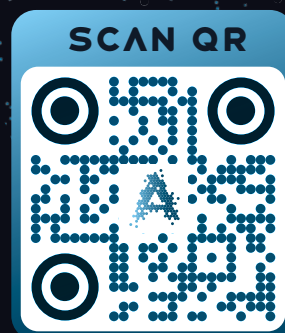


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