



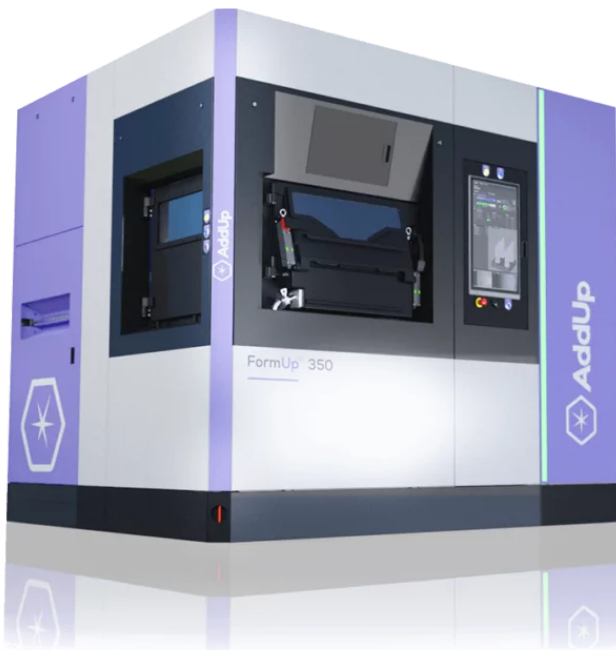
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FormUp® 350

Developed by
manufacturers for
manufacturers



The FormUp 350 machine is a solution for metal additive manufacturing using laser powder bed fusion (L-PBF). This modular and scalable machine offers a high level of productivity and allows the manufacture of high-quality parts while ensuring user safety.



THE PRODUCTIVITY
YOU'RE LOOKING FOR

100% platform coverage

The FormUp 350 machine has up to four 500 W lasers to meet your most demanding applications in terms of productivity. Each laser covers the entire platform surface, offering more freedom during build preparation.

40% faster powder spreading

The bidirectional coating system reduces non-productive time by 40% faster powder spreading cycles than monodirectional spreading.

Continuous powder supply

The Autonomous Powder Module, developed exclusively for the FormUp in partnership with AZO, provides all the functions of automatic powder management. It guarantees a constant supply of powder, without interrupting production, regardless of the quantities to be produced.

Average time between productions:

- ✓ **1 hour or less** : Designed for mass production applications, the FormUp 350 machine limits the time between each production run
- ✓ **0 pollution during production**: Low maintenance, using a long-life smoke treatment module (filter replacement interval of more than one year), and



Cross Jet technology, which prevents soiling of the laser protection glass during manufacturing.

- ✓ **15 minutes for a complete inerting of the enclosure:** Optimized production chamber sealing to reduce inerting times. 15 minutes are sufficient to reach an oxygen level of 500 ppm.
- ✓ **75% reduction in cooling time:** A cooling system for the machine's Z-axis lowers the temperature of the platform at the end of production, allowing parts to be unloaded more quickly (2 hours to cool down from 200 to 65°C, compared to 12.5 hours without active cooling).
- ✓ **Fast and automated referencing:** A probe-based platform referencing system. It only takes few seconds to adjust the positioning of the manufacturing trays and check their flatness, repeatedly and automatically.

1.27 million trajectories generated per second

AddUp Manager™ software offers a trajectory generation speed never seen on the market, up to **1.000 times faster** than real production. AddUp NCore software embedded in the machine is capable of processing production files of more than 80 GB in one go.

A HIGH LEVEL OF QUALITY FOR METAL 3D PRINTED PARTS

The FormUp 350 machine will meet all your part quality



requirements, in terms of mechanical properties, geometric

properties (up to 0.1 mm dimensional accuracy), and material density (up to 99.99% Depending on the type and geometry of the parts and the material used).

160+ accessible parameters

All machine parameters are accessible. This allows you to develop application-specific manufacturing recipes and find the best balance between productivity and quality for each part. The platform can be heated up to 200°C, greatly reducing stress concentration and deformation risks.

Lasers accuracy to 35µm

All lasers are equipped with a 3-axis optical chain. This high-end technology guarantees both positioning accuracy (24-bit resolution) and laser beam quality. This accuracy is crucial for multi-laser applications on a single part.

10 µm** improvement in roughness with roller spreading

** Measurements carried out on TA6V particle size 5-25 vs 20-53

The FormUp 350 is the only machine on the market with an interchangeable coating device. Choose the powder spreading system best suited to your production: a scraper system for maximum productivity, or a roller system for improved surface finishing. This one enables **support-free production** of your cantilevered parts and 10 µm reduction in arithmetic roughness (Ra) regardless of the surface angle.

Ensure the highest level of quality for your parts with our different



production monitoring and control solutions:

- ✓ **AddUp Dashboards:** For traceability and process analysis, visualize in real-time the 80 manufacturing parameters available on FormUp 350.
- ✓ **Melting Monitoring:** The melt pool quality monitoring system continuously measures the power emitted by all the lasers and the energy absorbed by the material.
- ✓ **Less than 1 second to analyze recoating:** Real-time powder quality analysis technology checks the surface of the powder bed for defects and triggers a second round of the recoating system if necessary.

DESIGNED FOR OPERATOR SAFETY

The architecture of the FormUp 350 allows you to use all types of metal powders, even the most reactive ones, such as titanium and aluminum alloys in fine powders.

0 contact with the powder

Operators can work in complete safety with the Autonomous Powder Module, powder storage, machine feeding, and unfused powder recovering and sieving.

0 risk during waste disposal

Exposure to smokes and melting residues is also limited, due to the automatic passivation filter system, which allows for safe disposal of the waste.



Create a confined area in your workshop with ease

Is your workshop not suitable for the use of metal powders?

AddUp offers the FlexCare solution, a fully integrated production system, that is easy to install and move. The FlexCare contains all the features of a metal additive manufacturing workshop: confined area with an airlock system, vacuum to prevent any powder leakage to the outside, air quality control, etc.

A MODULAR & SCALABLE MACHINE

4 configurations

The modular design of the FormUp 350 machines allows each manufacturer to configure the machine according to his needs. AddUp offers four predefined configurations to help you make your choice:



STARTER



EFFICIENCY



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PRODUCTIVITY


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ADVANCED

25+ options to be
integrated at any time

Opt for a controlled investment, with a machine designed to be scalable. Whatever the chosen configuration, you can add new modules, options or equipment to your machine at any time, thus delaying its obsolescence. AddUp is committed to ensuring that all future improvements offered on this range are compatible with your machine.

FORMUP 350 – TECHNICAL SPECIFICATIONS

Machine dimensions (without powder device)	L 2.55 x W 2.2 x H 2.32 m	Standard Powder Module	For non-reactive and middle size powders
 Build volume	L 350 x W 350 x H 350* mm (~43 L)	Autonomous Powder Module	For all types of powder ***

Gas type	Argon or nitrogen with programmable control of oxygen level	Inerted condition
Laminar flow	Adjustable from 0.5 to 3 m/s	Sieving device integrated
Laser glasses protection	Cross Jet system	Powder recovery during production
Optical chain	Up to 4 x 500W Ytterbium continuous fiber lasers (1070 nm)	Glove box (option)
	Spot diameter: 70 µm	Inerted vacuum integrated
	100% platform coverage by each LASER	Filtration device with automatic unclogging sytem
	3D scanners: 2 axis for X/Y displacements + 1 axis for focal ajustement Max speed of 10m/s 35 µm accuracy	Fume and fusion residus management Calcium carbonate residus passivation
Visualization	Supervision camera Camera for HD pictures (option)	Filters lifetime > 3 years
		Cooling device Air / water
		Interoperability OPC-UA / MQTT (option)

Powder recoating device	Bidirectional Scraper (rigid blade, brush or silicon) or roller	CAM solutions	AddUp Manager or NTwin
	Layer thickness: 20 to 120 µm	Simulation software	Distorsion Simulation AddOn (option)
Part properties	Precision: up to 0.1 mm**	Monitoring	AddUp Dashboards (option)
	Density: up to 99.99%**		Recoating monitoring (option)
Heated platform	Up to 200°C Cooling system to improve temperature drop time after production	Remote Maintenance	Melting monitoring (option)
			AddUp Remote Control

* Up to 370 mm using a less thick platform

**depending on part geometry, material and melting parameters used

*** with AddUp validation

Data for information only, subject to change.



Services to help you integrate your machine

Our workshop to support your projects

The AddUp group operates its own manufacturing workshops, with one of the largest capacities in Europe: **over 40 metal additive manufacturing machines**. We can offer you different solutions to support your production: assistance in increasing your production rate, additional capacity, or a “twin” machine in our workshops to help you continue your operations.

3-year warranty

FormUp 350 machines are guaranteed for 3 years, with maintenance contracts tailored to your needs:

- spare parts available within 48 hours,
- web portal accessible 24/7,
- hotline service available 5 days a week from 8 am to 6 pm,
- remote connection to the machine,
- and different levels of preventive and corrective maintenance.

Ready for industry 4.0

Easily connect your machines to your shop floor software with OPC-UA and MQTT gateways that promote interoperability.

Simplify your digital chain, from design to finished part, with a direct import of your CAD files. More than 10 formats are supported: CATIA, SolidWorks, Creo, NX, etc.

9 training modules, from beginner to expert

Finally, AddUp offers a wide range of training and support services to assist you in integrating the machine, exploiting all its capacities, and developing your expertise in the process to gain autonomy.



FormUp 350 New Generatio...





COMPATIBLE MATERIALS

By design, FormUp® machines are compatible with all types of materials. Recipes and adjustments are already available for the following materials:



If your material is not yet listed, please contact us so that we can estimate the timeframe for the machine adjustments and tests.



 English ▼

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