RUSSELL

www.russellfinex.com

RUSSELL FINEX

Global Sieving & Filtration Specialists

Tianqi Additive improves productivity by over 100% with the latest additive manufacturing powder recovery station

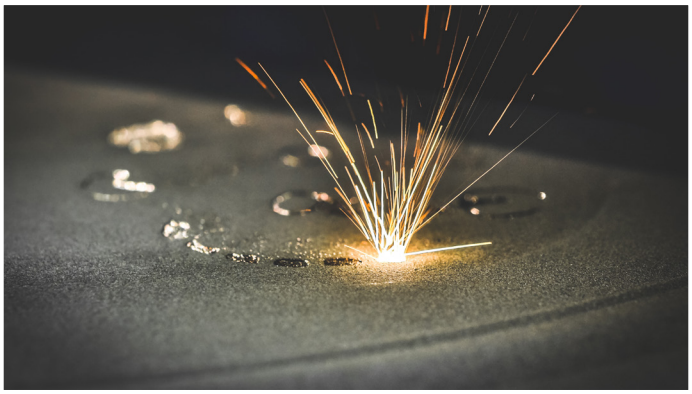
Leading Chinese additive manufacturing company halves production processing time and greatly reduces operator involvement

天齐增材
TIANQI ADDITIVE

Part of the Chengdu Tianqi Industry Group which was founded in 2003, Chengdu Tianqi Additive Intelligent Manufacturing Co (also known as Tianqi Additive) was established in 2018. As the need for high-quality local manufacturing facilities and operations grow in China, so too does the demand for high-end equipment.

In recent years, the growth of the additive manufacturing industry has accelerated in Chengdu. Tianqi Additive is committed to becoming a domestic provider of additive manufacturing solutions, focusing particularly on building reputable and successful 3D printing centers as one of its three main primary objectives.

Russell Finex was recommended to the company via other customers and at Formnext – Europe's largest powder handling exhibition – as an expert in the additive manufacturing industry. Having previously screened its titanium powder by hand using a manual sieve, Tianqi Additive was looking to improve its powder handling efficiency. It also wanted to improve the safety of its operators and increase screening efficiency by speeding up the reclaim process and minimizing product wastage.



Offering an innovative AM powder handling solution

After consultation with an experienced sales engineer the Russell AMPro® Lite was recommended to Tianqi Additive as an efficient, innovative solution to the company's previous powder handling problems. The unit was used for powder reclaim from the printer chamber, in conjunction with two other AM processing machines.

Compared to the manual sieving solution previously used, the installation of the AMPro® Lite increased sieving efficiency. This allowed Tianqi Additive to reduce operator involvement and allow them to focus on other value added tasks. The installation of the Russell AMPro® Lite at Tianqi Additive's factory allowed the powder to be screened at a faster rate, before moving on to the next part of the AM processing.

"The sieve capacity on the AMPro Lite was far higher than our manual sieve, which was very important for our powder recovery operation. It was incredibly easy to communicate with Russell Finex's China team for technical support and after sales help."

ShanFang Zou, Technology Manager at Tianqi Additive

Improving operator safety and reducing waste

As well as increasing sieve capacity, the Russell AMPro® Lite system vastly reduced product waste. The Russell Compact Sieve® style panwork with its minimal contact parts improved mesh separation quality, ensuring the particles were more uniform in size.

Russell Finex Ltd.
Feltham, England.
+44 (0) 20 8818 2000
sales@russellfinex.com

Russell Finex N.V.
Mechelen, Belgium.
+32 (0) 15 27 59 19
sales.nv@russellfinex.com

Russell Finex Inc.
Pineville, N.C. USA.
+1 704 588 9808
sales.inc@russellfinex.com

Russell Finex Pvt. Ltd.
New Delhi, India
+91 8800558656
sales.rfsf@russellfinex.com

Russell Finex China
Shanghai, China
+86 21 6426 4030
sales.china@russellfinex.com

Russell Finex Brazil
São Paulo, Brazil
+55 11-4950-9237
sales.brazil@russellfinex.com

RUSSELL FINEX

Global Sieving & Filtration Specialists

www.russellfinex.com

Its design also prevented contamination in the titanium powder and allowed for the easy strip down and cleaning of the unit. Using this unit enabled all of the good AM powder to be recovered, compared to its previously used manual sieve which limited the amount of powder collected due to the continual breakdown of the mesh.

The Russell AMPro® Lite also allowed for improved operator handling and safety. Its optional cyclone loading hopper system meant that the operators did not need to manually load the material into the sieve, making the system easier to handle and quicker to load for the operators.

For Tianqi Additive, incorporating the convey module allowed it to reclaim powder directly from the printer to the sieve station in one fast and safe operation. The system was cleaner than the previous manual solution as no dust from the metal powders escaped into the air, further protecting the operators from hazardous powders.

"The convey module was a nice feature which simply connected to our existing vacuum cleaner meaning no additional vacuum systems were necessary."

ShanFang Zou, Technology Manager at Tianqi Additive

The Russell AMPro® Lite unit serves as a lightweight, portable powder recovery station solution for entry-level users and for those looking to speed up the powder recovery process without compromising on safety. Ideal for supporting a variety of modular systems, such as inert gas purging systems, it is designed with operators in mind with its simple one-button control system.

"We are very pleased with our partnership with Russell Finex, and with the AMPro Lite, and look to improve the rest of our processing line and additive manufacturing processes with this solution to our sieving problems."

ShanFang Zou, Technology Manager at Tianqi Additive

Figure 1. The installation of the Russell AMPro® Lite

Benefits of the Russell AMPro® Lite:

- **Lightweight and compact design -** fits easily into any production process
- **Limits contamination risk -** with Russell Compact Sieve® panwork that has minimal contact parts and is easy to clean
- **Easy to use -** with a simple one-button control system

About Russell Finex

With 85 years of experience manufacturing highly efficient sieving, screening and filtration solutions across the globe, Russell Finex has worked in the AM industry since its conception. Designing a range of innovative AM powder handling solutions for a variety of requirements, the AMPro® range is fully flexible, used for numerous tasks at every stage of the AM industry.

To find out more about Russell Finex's full range of mesh separation, filtration, and sieving systems, contact an experienced sales engineer today, or visit our website.

Russell Finex Ltd.
Feltham, England.
+44 (0) 20 8818 2000
sales@russellfinex.com

Russell Finex N.V.
Mechelen, Belgium.
+32 (0) 15 27 59 19
sales.nv@russellfinex.com

Russell Finex Inc.
Pineville, N.C. USA.
+1 704 588 9808
sales.inc@russellfinex.com

Russell Finex Pvt. Ltd.
New Delhi, India
+91 8800558656
sales.rfsf@russellfinex.com

Russell Finex China
Shanghai, China
+86 21 6426 4030
sales.china@russellfinex.com

Russell Finex Brazil
São Paulo, Brazil
+55 11-4950-9237
sales.brazil@russellfinex.com