



Russell Finex powder recovery system reduces processing time for major UK Research & Technology Organization

Russell AMPro® Sieve Stations allow Manufacturing Technology Centre (MTC) to standardize its entire powder handling process and protect operators



Founded in 2010 in the UK, the Manufacturing Technology Centre (MTC) is an independent Research and Technology Organization (RTO) that seeks to bridge the gap between academia and industry. It helps a variety of industries from aerospace, defense, security and construction. Within it lies the National Centre for Additive Manufacturing (NCAM), founded in 2014, which works on ceramic, polymer, and metal additive manufacturing (AM) projects with the end goal of accelerating the uptake of AM in the UK.

MTC focuses its AM development work on presenting best practice and standardization to the wider AM industry for the production of Metal Powder Bed Fusion (MPBF) printing. This

covers the full AM process, including powder handling. The organization also looks to improve reliability, adapt to safer processes, allow for automation, and have the capability to work and meet the safety requirements specific to powder management. With this in mind, the company sought out leading, global manufacturing expert Russell Finex for a solution that could meet each of its specific criteria.

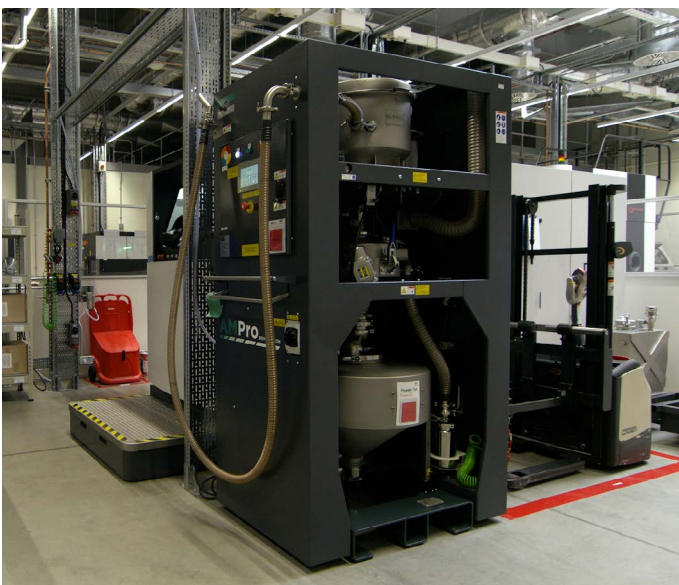
After successfully trialling a first-generation unit, the second-generation **Russell AMPro® Sieve Station** was recommended to MTC for its NCAM facility. Replacing a more manually operated powder recovery system, the Russell AMPro® Sieve Station was installed next to an EOS M400 metal 3D printer. This allowed powder to be conveyed directly from the printer, sieved and transferred back for the next build. This gave a **four-fold time reduction** in sieving the AM powder, as the operator no longer had to sieve into four different smaller containers.

This also allowed for a significant safety improvement as the unit reduced the possibility of powder contamination and the risk of operator exposure to the powders, as there was no need to move the powder container between the conveyer and the sieve. The ATEX rating of the machine gives peace of mind, allowing any metal alloy to be processed and safely sieved. This includes the ability to convey and sieve reactive alloys in an inert gas which preserves powder quality.

“We were really impressed with the flexibility offered by the Russell AMPro Sieve Station, which allowed us to adapt the machine as we needed to each of our sieving processes, but also meant we could have a fixed process to manufacture production parts when needed.”

Vince Sparrow, Team Leader of Additive Operations

The Russell AMPro® Sieve Station with its all-in-one powder management system means that it can be used for numerous powder handling tasks, configured to meet exact sieving





requirements, and guaranteeing the quality of AM powder before use.

With a fully automated and enclosed system, it is a fast, repeatable and reliable system requiring minimal operator involvement, each of which were key benefits identified by the MTC.

“The Russell AMPro Sieve Station is incredibly intuitive to use, conveying and sieving into a compact unit. The reliability and repeatability offered by this machine made it the best solution for us, improving powder traceability and quality, and future proofed long term collaboration between Russell Finex and the MTC for years to come.”

Vince Sparrow, Team Leader of Additive Operations

As a global leader and manufacturer of high-quality solutions for the additive manufacturing industry, Russell Finex has used over 85 years of expertise and knowledge to develop the Russell AMPro® Sieve Station, alongside its brand-new range of additive manufacturing equipment. With a **variety of AM powder handling solutions** to suit different requirements, such as the Russell AMPro® Lab, Russell AMPro® Lite, and other closed-loop systems, Russell Finex will ensure that all metal powder sieving requirements are met, futureproofing the AM industry for years to come. To find out more information, **contact an experienced sales engineer today.**



Advantages of the Russell AMPro® Sieve Station:

- **Prevent cross-contamination** - Russell Compact Sieve® style technology with minimal contact parts, allows for easy cleaning of the unit
- **Ensure maximum powder recovery** - Removes all out of spec powder, recovering all reusable powder ready for use
- **Minimize operator involvement** - Fully automated and enclosed system with a simple one-button operation for complete process integration

