DEPARTMENT OF THE AIR FORCE
OKLAHOMA CITY AIR LOGISTICS COMPLEX (OC-ALC)
TINKER AIR FORCE BASE OKLAHOMA

Item Description

Metal Power Sieving Vacuum

76 CMXG MXDER (REACT) is acquiring one (1) each metal additive manufacturing machine that will be set up to print with titanium powder. This printer will be used to provide critical parts and tooling to support agencies across the DOD. After each print the metal powder must be sieved to remove condensate (a byproduct of the metal 3D printing process) and maintain proper Particle Size Analysis (PSA) distribution. This process is time consuming and can present safety issues if performed without a sieving vacuum system. The powder reclamation system described below improves safety and reduces the labor hours associated with the 3D printer setup by up to 85%.

The Metal Powder Recovery System must consists of the following components:

- Pick up hand tool, with standard KF fitting
- Static conductive hose, smooth bore. Hose to be FDA and USDA approved. Aero-space application to be flexible hose smooth bore construction.
- Vacuum Receiver Package with 20+ square feet of filter area, counter weighted discharge valve.
- Inert gas purge fittings with gas purge manifold
- HEPA Filter canister with filter
- Vacuum Generator- Compressed air driven vacuum generator. ½" NPT high-pressure air connection. Requires at least 30CFM @ 60PSI for operation. With variable orifice assembly for adjustment of vacuum levels.
- High output suspended vibratory sieving machine with US230 Mesh and Ultrasonic Deblinding kit.
- Bonding and grounding kit
- UL Certified control panel NEMA 4 enclosure. Control panel will incorporate micro PLC for vacuum conveying functions, a starter for sieve, ground and bonding monitor, face mount ultrasonic control
- Rolling frame with locking casters.