

Selective Laser Sintering (SLS) Additive Manufacturing

The Application

Recycling batches of Polymer powder after a parts build during the Selective Laser Sintering (SLS) 3D printing or Rapid Prototyping processes.

The Problem

The need to remove small contaminates and agglomerates of oversize materials along with separating the used polymer powder from the printed parts. The system with sieve must be compact, flexible for easy cleaning and portable or retractable to fit into and/or outside the parts Breakout Cabinet (BOS) or utilized as a stand-alone sieve station.

The Solution

The installation of a high-speed center discharge 1 or 3PH 1/6HP 3600RPM VORTI-SIV Model RVM-15E with sealed inlet and outlet sieve unit. The unit will utilize flexible RCN style inlet/outlet boots and stainless CIP product contact parts. An optional pneumatic driven air pistol with Nitrile work station gloves are available to separate the parts from the powder from inside the build cylinder.

The Benefit

Dust Free Recovery

Two(s) stainless sanitary product contact parts enable a fast powder clean-up or product change over. The contact parts are secured by Four (4) quick-release clamps which allows easy screen repairs. The sieve's inlet cover includes a single or twin inspection ports with caps for quick screen access to removable larger particles. Additionally, the sieve outlet boot utilizes a quick disconnect clamp to connect to the pail and digital scale weighing system to monitor the processing of the batch.

Compact Sieve

The Low-profile 12" high totally enclosed center discharge Model RVM-15E is mounted on a retractable drawer inside the parts BOS Cabinet. Optional removable stand-alone and inline purged and sealed full XP versions are available for AM metals powder recovery. See additional information and case study.



VORTI-SIV®

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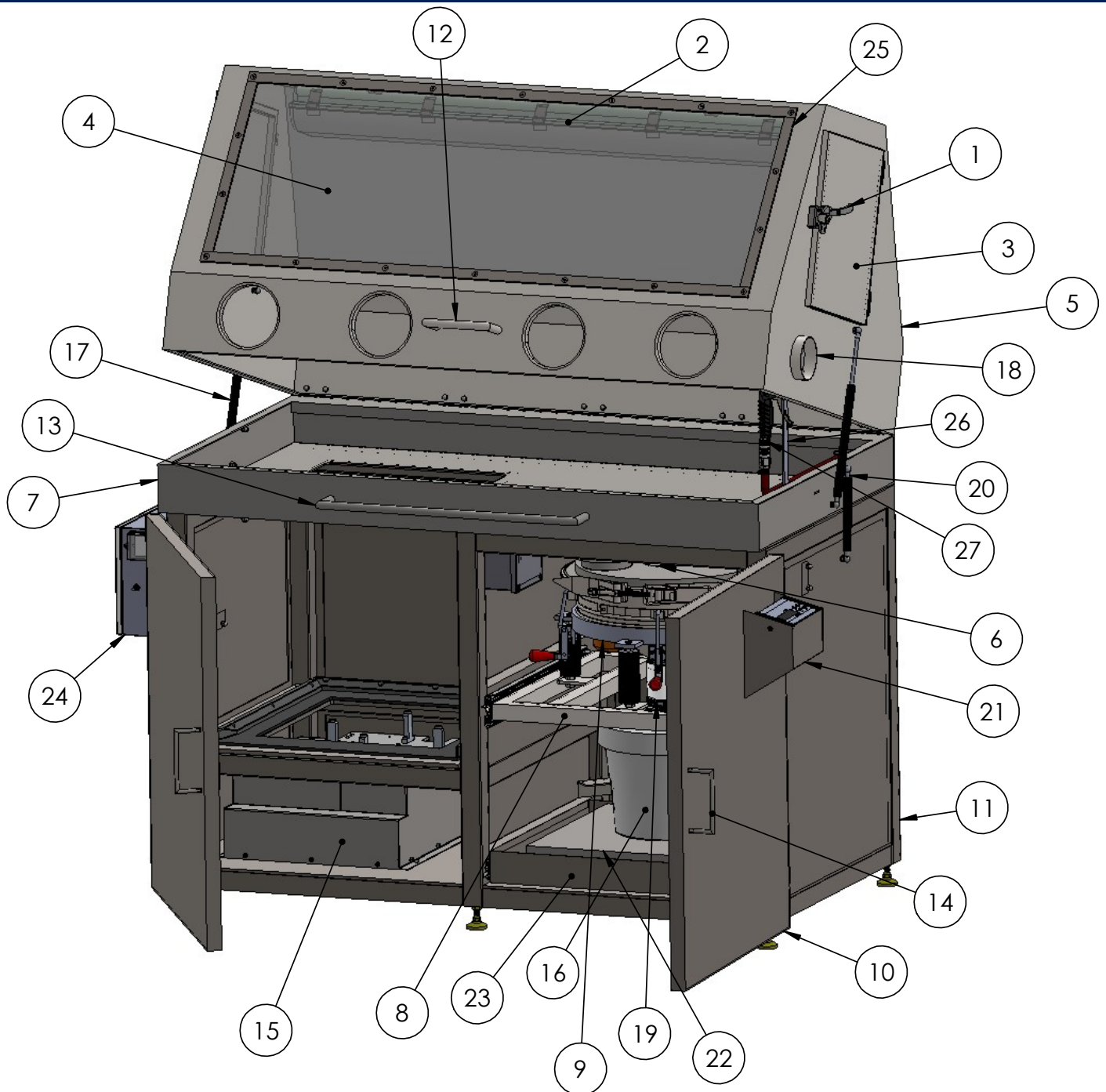
**Typical enclosed lighted
Parts Breakout
Station and Sieve**



**BOS shown open
with Lift and Sieve and Drawer**



Breakout Cabinet Components



- | | | |
|---------------------------------|---|---|
| 1 - Air tight latch | 10 - Cabinet door | 19 - Nylon boot with hose clamp, ferrule & triclamp |
| 2 - 4 ft led linear vapor light | 11 - Frame assembly | 20 - Short gas strut |
| 3 - Small access door | 12 - Hood lifting handle | 21 - Scale monitor and box |
| 4 - Front window lexan | 13 - Table top handle | 22 - Adams equipment bench scale |
| 5 - Hood | 14 - Cabinet door handle | 23 - Scale drawer |
| 6 - Removable basket & tabletop | 15 - Piston lift | 24 - Piston lift control box |
| 7 - Tabletop | 16 - Uline 2.5 gal. screw top pail with custom flange & ferrule | 25 - Front window frame |
| 8 - Sieve drawer | 17 - Long gas strut | 26 - Air gun bracket |
| 9 - Model RVM-15E | 18 - Vacuum port | 27 - Parker air gun & components |



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