3D Printing

Design and Development of a Bulk Material Handling Device for Metering, Mixing, and Delivery of Powder Feedstock

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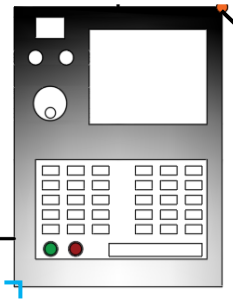
Powder Metering → Powder Conveyance → Powder Delivery

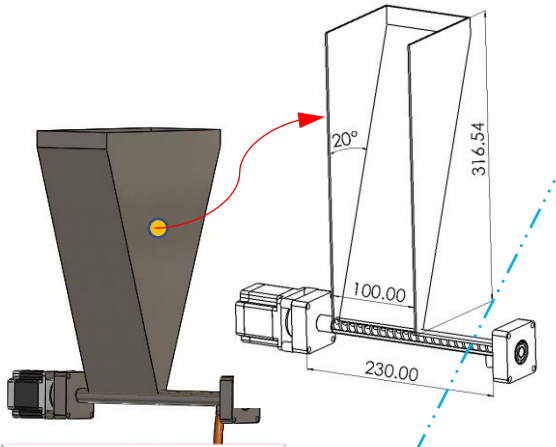
Powder Mixing



Controller

In-house developed

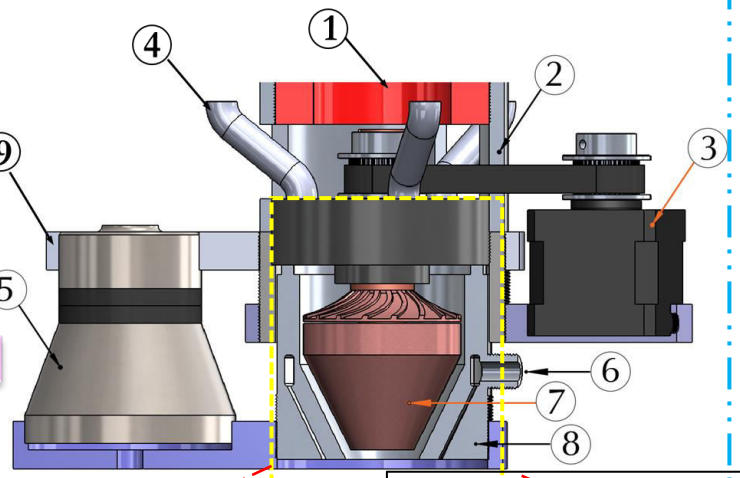
A novel idea of using an impeller

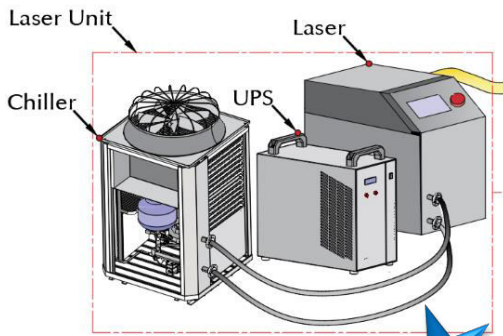


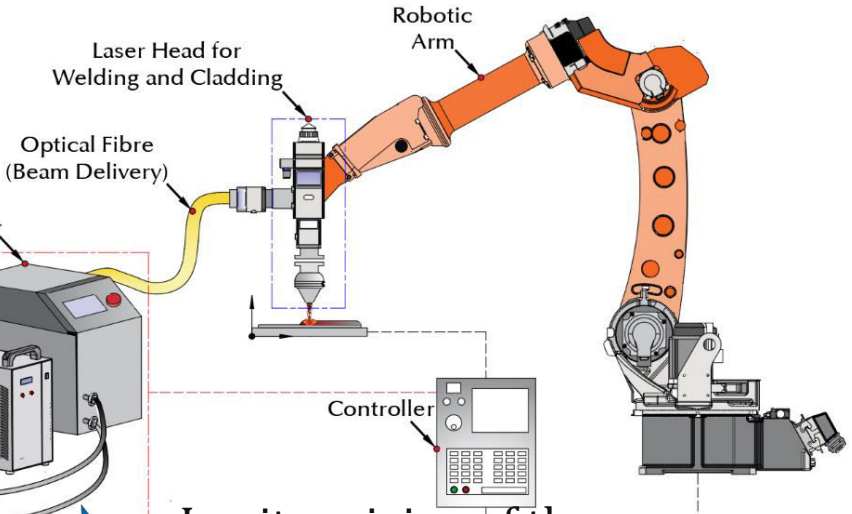
Powder Metering

Powder Delivery

Positioning Systems

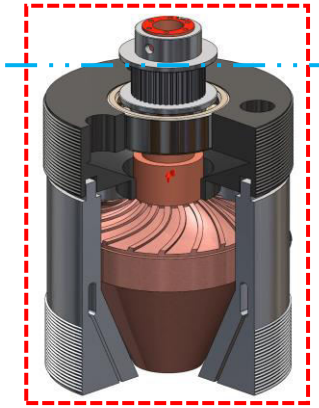






In-situ mixing of the multiple powders

1	Laser Head	9	Mount Plate
2	Optics Coupling		
3	Stepper Motor		
4	Feed Conduit	7	Inner Cone
5	PZT Transducer	8	Outer Cone
6	Shield Gas Provision		



Objective

To develop a granular feedstock delivery nozzle that eliminates/minimizes the use of conveying gas for the transportation, metering, mixing and distribution of powder material. Thus, providing efficient and cost-effective granular materials handling solutions to the industries worldwide.

Deliverables

The key deliverable of the project will not just be a product but also a technology that will find applications in a variety of fields. Any industry, which handles granular feedstock, will be directly benefited from this product.