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(57) Abstract :

A pellet-assisted semi-vertical extruding system (100) for filament manufacturing, comprises the following six modules: frame and support structure (110); material feeding module (120); filament extrusion module (130) integrated with a heating module; cooling module (140); filament puller assembly (150); and filament traverse and winding assembly (160). The semi-vertical filament extruder system is more compact and reduces the gravitational load by shifting the vertical load component towards the L-shaped channel. Further, filament is passing through this L-shaped channel via rollers which is resulting in more uniform filament diameter. In the present specification, the filament is extruded through nozzle in vertical direction however it travels from nozzle to pulling assembly in semi-vertical direction with the help of outlet angle (284) of the L-shaped aluminum channel (281). Figure 1.

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