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To,
Parametric Designs & Solutions
M- 35, Vikaspuri,
New Delhi – 110018

Installation Completion Report for BCN3D Sigma D25 FFF Printer

Installation Site: MEMS, Microfluidics and Nanoelectronics Laboratory
(www.mmne.in)

Department of Electrical and Electronics Engineering
BITS Pilani, Hyderabad Campus.

- Printer Type & Model – *BCN3D Sigma D25*
- Bed Size – *420 mm X 300 mm X 200 mm*
- Installation Completion Date – *October 06, 2021*
- Training Completion Date – *October 06, 2021*
- Comments on Features of Printer:
 - Size: *The Sigma D25 is a convenient 3D printer that sits very well in our lab workspace. The system is powerful yet convenient to move around. The ability to load filaments from spools sitting inside the printer body effectively utilises surrounding space.*
 - Quality of Build: *The build quality is good and the aluminium frame gives the printer durability along with a good aesthetic look. One issue that was faced was damaged during transit; however, BCN3D sent a replacement for the original printer, and the issue was resolved. The machine has a sturdy build but one shortcoming is that the print is open to the atmosphere. A protective cover (at least a removable cover) for downtime would be a good addition since Indian conditions are generally susceptible to dust, and we have to clean the working surface before prints.*
 - IDEX Technology: *The independent dual extruder (IDEX) has been very satisfying, especially in mirror mode. It enables quicker prints. Aesthetically also, one can print multiple colours with this model. Along with the IDEX operation, dual extrusion prints with different filaments have also been quite reliable as compared to other systems we use.*
 - Quality of Printable Materials: *The quality of filaments supplied by BCN3D has been quite satisfactory. One of the materials that stand out is Tough PLA. With the convenience of simple print settings, the material provides high strength, quite similar to ABS.*
 - Quality of Surface finish of the printed products: *Compared to the existing equipment at our Lab, the surface finish of products printed on Sigma D25 has been remarkable. The products hardly require post-processing, and the layer adhesion is very good. The build plate adhesions and supports on prints are also quite convenient to remove.*
 - Strength of Printed Products: *We have not printed any models for high strength applications. However, the general experience has been good and the strengths*





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of the final products have been as expected. But the standout material is Tough PLA.

- Any General Information which you think can be shared about the benefits of BCN3D printers for the Industry/Academia in specific:
Materials supplied with BCN3D have performed well and so have the filaments sourced from other third-party suppliers. All compatible filaments performed well. We did not have a Smart Cabinet option with Sigma D25, which I think is a requirement for filaments like BVOH as we faced clogging issues with BVOH filament (being hygroscopic). The standout feature of BCN3D Sigma D25 is its reliability. We have attempted a number of prints lasting for more than 24 hours, and not even a single print has failed as opposed to the certain existing system where we have to monitor for misalignments, damage, etc continuously. This is a send command and forget kind of printer for large build volume, which significantly increases productivity.

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