D No. 9/2 /APD
Date 6-03-2020

ENQUIRY FORM

DEPARTMENT OF APPLIED PHYSICS

Z. H. College of Engg. & Tech., A.M.U. ALIGARH

Dated: 06/03/2020

Ref. No. APD-01/2020-21/ Twin-screw extruder

Please quote your lowest rates allowing concessions given to Academic Institutions, if any, for the following articles, illustrations/specification, stating delivery time. **Quotation must specify company name, Model number, Validity and Guarantee/Warranty period. In case of incomplete information, the Quotation will be rejected.**

Quotation under sealed cover bearing the **Ref. No.** should reach this office on or **before 16/03/2020 by 3:00PM.**

S.No	Particulars
1	**Specification of Micro-Scale Twin Screw Extruder:** A Micro-scale (Minimum volume capacity of 7-10ml) twin-screw extruder is required for mixing/compounding of commercial/lab-synthesized thermoplastic polymers with other thermoplastic polymers &/or additives/fillers. The extruder must have the below-mentioned minimum specifications: 1. The twin-screw extruder must preferably be a horizontal barrel type to simulate a production scale twin-screw extruder. 2. It is mandatory for the extruder to have a removable top barrel assembly for easy cleaning and making sure that left-over ingredients and byproducts from previous batch are thoroughly cleaned by using appropriate cleaning tools &/or immersing the barrel in mild solvents/cleaning solutions. 3. It is mandatory that the mixing screws must be removable as well for easy cleaning. 4. The extruder must have a recirculating backflow channel for material recirculation to achieve efficient mixing and to control residence time precisely. 5. Max. torque per screw: 5 Nm or more 6. Controllable twin screw speed: from 2 RPM to 300 RPM or more. 7. Mandatory co-rotating mixing screws are required. 8. Temperature of extruder: 300^{o}C or more. 9. The extruder temperature should be maintained within +/- 1^{o}C of the desired set point of experimental mixing/compounding temperature. 10. It is desirable to have adequate cooling with either forced air or water circulation for maintaining precise barrel temperature.