SPECIFICATIONS

The Sustainable Biofuels and Coproducts Research Unit (SBCP) at the USDA-ARS Eastern Regional Research Center requires a micro-compounder and a mini injection moulder including a direct attachment transfer unit to take the compounded material directly to the injection moulder.

Quantity: 1

Unit Type: Each

Minimum Requirements:

Micro-Compounder

1. Benchtop size
2. Electrical requirements: 208 V or 115 V (115 V preferable)
3. Drive Motor 400W or more of power
4. Screw Speed of 1 to 400 rpm or greater
5. Set of co/counter rotation twin conical screws
6. Torque rating of screws: 5Nm/screw or greater
7. Temperature maximum of greater than or equal to 350 ^{o}C
8. Software package for rheological measurements in order to view, measure, analyze, evaluate and export data
9. Integrated pressure transducers for melt viscosity data and rheological measurements
10. Integrated Thermocouple
11. Sample size greater than or equal to 3 cm^3 with an optimum amount of 7 cm^3, but not to exceed 15 cm^3
12. Include transfer attachment die for injection moulder
13. Extruder pressure of at least 300 bar
14. Has an inert gas flush system
15. Installation, testing, and calibration of the equipment is included
16. Training on the use of equipment is included
17. One year warranty

Mini Injection Moulder

1. Benchtop size: 50x50x100cm (LxWxH) or less
2. Capable of small-scale operation (5 grams or less)
3. Electrical requirements: 208 V or 110 V (110 V Preferable)
4. Maximum Injection Pressure or force of 1100 bar or higher
5. Processing section temperature range: ambient to 400 ^{o}C (or higher)
6. Mold Temperature range: ambient to 250 ^{o}C (or higher)
7. Barrel can be loaded from direct transfer from compounder or manually loaded using powders or pellets
8. Dogbone mold: Mold for an ASTM D638 Type V tensile bar included

9. Integrated control unit for injection mold parameters and settings
10. Installation, Testing, and Calibration of the Equipment
11. Training on Use of the Equipment
12. One Year warranty

2.0 Place of Delivery

USDA-ARS-ERRC
600 E. Mermaid Lane
Wyndmoor, PA 19038

3.0 Delivery Schedule

Item	**QTY**	**Unit**	**Place of Delivery** *(if multiple locations required)*	**Delivery Date** (Number of days or months after award required)
	1			

10/10/2025

4.0 Delivery Point of Contact

Rick Ashby, rick.ashby@usda.gov, 215-233-6483

5.0 Additional Requirements