

**Technical Specification for Addendum No.01/2021-22/01**

**MICROCOMPOUNDING MACHINE**

S. No	Items	Unit	Specifications
<b>Model :</b>			
1	Polymer to be processed	-	Machine capable of processing polymers, Bio Polymers etc for R&D or laboratory purpose i.e. bench top model preferred
2	Type of Screw rotation		Parellel co-rotating twin screw extruder
3	Twin Screw Diameters	mm	8 to 12
4	Volume of material	cm <sup>3</sup>	7
5	Screw Speed	rpm	300 and above
6	Max. Screw Torque per screw	Nm	4 to 8
7	Temperature range	c	upto 420
8	Melt pressure	Bar	100 and above
9	Volumetric or gravimetric dosing system for continuous filling of extruder		Please specify
10	Dosing location for powder and liquids, Exchangeable barrel & screw elements type, Ingegrated control, water cooling and vacuum unit, Pressure transducer , Melt Temperature transducer , pelletizer ( if applicable for machine), automatic bypass operation for circulation/extrusion		Please specify
11	Loader with vertical force feeder		Please specify
12	Max. Drive power	KW	Please specify
13	Total connected load	KW	Please specify
14	Set of die inserts to allow quick change of the die diameter. Should contain a set of threaded die nozzle inserts with diameters: 0.5, 1.0, 1.5, 2.5 and 3.0 mm		Please specify and quote
15	Control System	-	Microprocessor type
16	Synchronisation of Extruder drive with Haul off unit etc	-	Please specify
17	Safety	-	Please specify
18	Machine dimensions(LxWxH)	-	Please specify
19	Essential Spares	-	Please Specify & Quote
	a. set of Thermocouples		
	b. set of Heater		
	c. Pressure transducer		
	d. Melt temperature transducer		
	e. split barrel elements, PC based software etc.		
20	Screw made of Stainless steel 1.4122 cr coated	-	Please Specify
21	Stainless steel bareel (HRC55) or similar material with additional sensor port	-	Please Specify
22	Air compressor with drier suitable for above machine	-	Please Specify & Quote if applicable
23	Small bench top chiller for cooling main feeding port and bareel cooling port	-	Please Specify & Quote if applicable
24	Sheet die set for twin screw extruder- 30 mm wide sheet die with adjustable slit gheight 0.1 to 1.1 mm with temperature controller, flexible lip with adjustable screws	-	Please Specify & Quote
25	Sheet takeoff system for twin screw extruder	-	Please Specify & Quote

**Microinjection Moulding Machine**

Sl. No	Item	Unit	Specification
	<b>Injection Unit</b>		
1	stroke volume	cm <sup>3</sup>	8 to 12

2		Screw Diameter	mm	12 to 14 mm
3		Screw L/D Ratio	-	Specify
4		Injection Pressure	bar	1200 to 1800
5		Injection Speed	mm/sec	60 and above
6		Injection Rate	cc/sec	20 and above
7		Plasticizing Rate (GPPS)	gm/sec	Specify
8		Max. SCREW SPEED	rpm	Specify
9		Melt temperature	c	400 to 450
10		Heating Capacity	kw	Specify
		<b>Clamping Unit</b>		
11		Clamp Force	KN	60 to 100
12		Mould Opening Stroke	mm	80 and above
13		Maximum Daylight	mm	specify
14		Minimum Mould Height	mm	80
15		Maximum Mould Height	mm	170
16		Platen Size	mm	250 x 250 and above
17		Distance Between Tie Rod	mm	160 X 155 and above
18		Ejector Stroke	mm	30 and above
19		Ejector Force	KN	50 and above
20		Mould Weight Capacity	kg	Specify
		<b>General</b>		
21		Control	-	Microprocessor type
22		Air Ejection	-	Specify and Quote
23		Servo drive or Electric drive	-	Specify
24		Hopper capacity	L	Specify
25		Total connected Load	KW	Specify
26		Mould cooling circuit	-	Specify and Quote
27		Computer connectivity	-	Specify
28		Water Chiller unit suitable for above machine	-	Specify and Quote if applicable
29		Mould for Test specimen for Tensile, Izod, Charpy, disc as per ASTM or ISO	-	Specify and Quote
30		Air commpressor with Drier unit suitable for above machine	-	Specify and Quote if applicable
31		Essential/Standard spares	-	Specify and Quote for 1 set (Standard Tool Kit, Thermocouple, Band Heater, Nozzle, Mould Clamps, Etc.)