

Technical Specification for Tender no.2020-21/05

1. All Electric, Microprocessor Controlled Injection Moulding Machine 180-200T

Sl. No	Item	Unit	Specication
Injection Unit			
1	Shot Capacity (in GPPS)	g	450 and above
2	SCREW DIAMETER	mm	45 - 60
3	SCREW L/D RATIO	-	Specify
4	INJECTION PRESSURE	bar	1600 and above
5	INJECTION Speed	mm/sec	160 and above
6	INJECTION RATE IN AIR	cc/sec	200 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify
8	Max. SCREW SPEED	rpm	Specify
9	Heating Capacity	kw	Specify
Clamping Unit			
10	CLAMP FORCE	ton	180-200
11	Mould Opening Stroke	mm	510 and above
13	MAXIMUM DAYLIGHT	mm	1050 and above
14	MINIMUM MOULD HEIGHT	mm	Specify
15	Maximum Mould Height	mm	Specify
16	PLATEN SIZE	mm	750 x 750 and above
17	DISTANCE BETWEEN TIE ROD	mm	550 X 550 and above
18	EJECTOR STROKE	mm	130 and above
19	EJECTOR FORCE	ton	3 and above
20	MOULD WEIGHT CAPACITY	kg	Specify
21	Powerpack for hydraulic core pulling	-	specify and quote (Minimum 2 core pulling)
22	Multi stage Air Ejection	-	Specify and Quote (Minimum 5 point)
General			
24	T Slot Platen	-	Specify
27	Robot Interface	-	Specify and Quote
28	Hot Runner Inerface	-	Min. 4 Zones
29	Interface for Gas Assisted Injection	-	Specify
30	Water inlet & outlet manifold for Mould cooling	-	Min. 10/10 Channel
31	Computer connectivity	-	Specify
32	Hopper loader cum drier	-	Minimum 75 kg capacity hopper.
33	Essential/Standard spares	-	Specify and Quote for 1 set (Standard Tool Kit, NRV, Thermocouple, Band Heater, Short/Extended Nozzle, Nozzle Spanner, SSR, Proximity Switch, Limit Switch, Mould Clamps, T-Nut and Studs, Etc.)

2. All Electric, Microprocessor Controlled Injection Moulding Machine 275-300T

Sl. No	Item	Unit	Specication
	Injection Unit		
1	Shot Capacity (in GPPS)	g	1000 and above
2	SCREW DIAMETER	mm	55-70
3	SCREW L/D RATIO	-	Specify
4	INJECTION PRESSURE	bar	1400 and above
5	INJECTION Speed	mm/sec	160 and above
6	INJECTION RATE IN AIR	cc/sec	200 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify
8	Max. SCREW SPEED	rpm	Specify
9	Heating Capacity	kw	Specify
	Clamping Unit		
10	CLAMP FORCE	ton	275-300
11	Mould Opening Stroke	mm	600 and above
13	MAXIMUM DAYLIGHT	mm	1200 and above
14	MINIMUM MOULD HEIGHT	mm	Specify
15	Maximum Mould Height	mm	Specify
16	PLATEN SIZE	mm	940 x 940 and above
17	DISTANCE BETWEEN TIE ROD	mm	660 X 660 and above
18	EJECTOR STROKE	mm	150 and above
19	EJECTOR FORCE	ton	5 and above
20	MOULD WEIGHT CAPACITY	kg	Specify
21	Powerpack for hydraulic core pulling	-	specify and quote (Minimum 2 core pulling)
22	Multi stage Air Ejection	-	Specify and Quote (Minimum 5 point)
	General		
24	T Slot Platen	-	Specify
27	Robot Interface	-	Specify and Quote
28	Hot Runner Inerface	-	Min. 4 Zones
29	Interface for Gas Assisted Injection	-	Specify
30	Water inlet & outlet manifold for Mould cooling	-	Min. 10/10 Channel
31	Computer connectivity	-	Specify
32	Hopper loader cum drier	-	Minimum 75 kg capacity hopper.
33	Essential/Standard spares	-	Specify and Quote for 1 set (Standard Tool Kit, NRV, Thermocouple, Band Heater, Short/Extended Nozzle, Nozzle Spanner, SSR, Proximity Switch, Limit Switch, Mould Clamps, T-Nut and Studs, Etc.,)

3. CNC Vertical Machining Centre (Big)

Sl. No.	Specification	Unit	Range/Value
1.	Work Table Size	mm	X: 1000-1200 Y: 650 -750
2.	Axis Travel		
3.	X Axis	mm	1000 or more
4.	Y Axis	mm	600 or more
5.	Z Axis	mm	600 or more
6.	Spindle Taper	STD.	ISO 40/BT 40 or specify
7.	Speed Range	RPM	8000 or more
8.	Rapid Traverse	m/min.	20 -30 (for all axes)
9.	Cutting Feed rate	m/min.	1 – 20 or more
10.	Positioning Accuracy	mm	± 0.005
11.	Repeatability	mm	± 0.003
12.	Max weight on the table	Kg	1000 or more
13.	Automatic Tool Changer	Nos	20 to 24 tools
14.	Maximum Tool Diameter	mm	75 to 150 mm (with/without adjacent tools)
15	Control system		Preferably Heidenhein/Fanuc/Siemens latest version or equivalent (Latest with complete module) with the screen size of 19" or more with touch screen technology, app based which leads to a smart paperless shop floor management and monitoring.
16	Warranty		The whole system and its accessories should be given two years warranty for the machine and three years for the spindle replacement and service against any design, manufacturing and workmanship defects from the date of installation and commissioning.
17	Servo Stabilizer	01 No.	suitable for the machine
18	Air Compressor with Dryer	01 No.	suitable for the machine
19	Touch probe	01 No.	Renishaw / BLUM
20	Tool Holding Device with set of collets	01 set	Dia 3 – 25mm
21	Drill Chuck	01 set	0-13mm
22	Face mill Adaptor (Holder)	01 each	40mm & 80mm
23	Tool Locking with Pull stud	01 set	STD
24	Clamping kit	01 set	As per requirement
25	Precision Hydraulic Vice	01 No.	8"inch
26	Three jaw chuck	01 No.	300mm
27	RS232 Cable	01 no.	4-5mtrs
28	Touch point sensor	01 no.	STD

29	Face mill cutter Ø 60, 100 mm – std. make (Carbide tip insert type – 1 box))	01 each	STD
30	5 drawers tool cabinet	1	570 x 350 x 800 mm (roller type)

4. CNC Vertical Machining Centre (Small)

Sl. No.	Specification	Unit	Range/Value
2	Traverse Y – axis	:	500 – 600 mm
3	Traverse Z – axis	:	450 – 550 mm
4	Table Clamping Area		(750 – 950) x (550 – 750) mm
5	Spindle Taper	:	40
6	Speed range	:	12000 or more
7	Max Table load	:	600 kg
8	Rapid Traverse	:	36 m/min or more
9	Cutting Feed rate	:	1 - 20 m/min or more
10	Automatic Tool Changer	:	20 to 24 tools
11	Maximum Tool Diameter	:	75 to 150 mm (with/without adjacent tools)
12	Positioning Accuracy	:	±0.005 mm
13	Repeatability	:	±0.003 mm
14	Control system		Preferably Heidenhein/Fanuc/Siemens latest version or equivalent (Latest with complete module) with the screen size of 19" or more with touch screen technology, app based which leads to a smart paperless shop floor management and monitoring.
15	Warranty:		The whole system and its accessories should be given two years warranty for the machine and three years for the spindle replacement and service against any design, manufacturing and workmanship defects from the date of installation and commissioning.
16	Servo Stabilizer	01 No.	suitable for the machine
17	Air Compressor with Dryer	01 No.	suitable for the machine
18	Touch probe	01 No.	Renishaw / BLUM
19	Tool Holding Device with set of collets	01 set	Dia 3 – 25mm
20	Drill Chuck	01 set	0-13mm
21	Face mill Adaptor (Holder)	01 each	40mm & 80mm
22	Tool Locking with Pull stud	01 set	STD
23	Clamping kit	01 set	As per requirement
24	Precision Hydraulic Vice	01 No.	8"inch
25	Three jaw chuck	01 No.	300mm
26	RS232 Cable	01 no.	4-5mtrs

27	Touch point sensor	01 no.	STD
28	Face mill cutter Ø 40, 80 mm – std. make (Carbide tip insert type – 1 box))	01 each	STD
29	5 drawers tool cabinet	1	570 x 350 x 800 mm (roller type)

5. Microprocessor Controlled Automatic Injection Moulding machine 350 - 400 T (SERVO)			
Sl. No	Item	Unit	Specification
Injection Unit			
1	Shot Capacity (In GPPS)	gms	1250 and above
2	Screw Diameter	mm	70 - 80
3	Screw L/D Ratio	-	20:1 to 24:1
4	Injection Pressure	bar	1600 and above Multistage
5	Injection Speed	mm/sec	Min. 250
6	Injection Rate	cc/sec	Min. 300
7	Plasticizing Rate (GPPS)	gm/sec	Min.50
8	Max. SCREW SPEED	rpm	Min. 130
9	Heating Capacity	kw	Plz specify (lower preferred)
Clamping Unit			
10	Clamp Force	ton	350
11	Mould Opening Stroke	mm	Min. 700
12	Maximum Daylight	mm	(1150 and above)
13	Minimum Mould Height	mm	Max. 300
14	Maximum Mould Height	mm	Min. 450 and above
15	Platen Size	mm	min. 1000 x 1000 and above
16	Distance Between Tie Rod	mm	Min. 700 X 700 and above
17	Ejector Stroke	mm	Minimum 200 (Multi point and Multi Stage) Specify
18	Ejector Force	ton	Min. 10
19	Mould Weight Capacity	kg	Max. 5000
20	Power pack unit for Hydraulic Multiple core pulling	-	Minimum 4 core pulling
21	Multi stage Air Ejection	-	Specify (Minimum 5 point)
General			
22	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
23	Latest Square Platen	-	Specify and Quote
24	Water inlet & outlet manifold for Mould cooling	-	Min. 10/10 Channel
25	Computer connectivity	-	Through Ethernet or HDMI cable
26	Total connected load	-	Max. 80 KW - lower preferred
27	Energy meter along with machine	-	Specify and Quote

28	Max. Power consumption @ full machine capacity	-	lower preferred
29	Motor - servo drive	-	Specify and Quote
30	Essential/Standard spares	-	Specify and Quote One set of (Standard Tool Kit, NRV, Thermocouple, Band Heater, Short/Extended Nozzle, SSR, Proximity Switch, Limit Switch, Mould Clamps, T-Nut and Studs.)
31`	Safety	-	Specify the Special safety provisions
32	Machine Dimensions (LxWxH)	-	Specify and Quote

6. Microprocessor Controlled Automatic PET Preform Stretch Blow Moulding Machine 5 Litre

Sl. No	Item	Unit	Specication
1	Bottle volume Max.	ml	Upto 5000
2	Output (bottle per hour) (Min.-Max.)	Nos.	600-1800
3	No. of cavities	Nos.	1 Nos.
4	Mould for 2 L and 5 L	Nos.	1 Each
Bottle Specifications			
4	Max. Bottle height	mm	Max.400
5	Max. Bottle Diameter	mm	Max. 220
6	Max. Neck Diameter	mm	Max. 70
7	Max. Preform Height including neck	mm	Max. 200
OTHER FEATURES			
8	Microprocessor Control System	-	Touch screen display with B&R or Siemens Controller
9	Preform preheating system load	-	specify
10	Safety	-	Appropriate safety features to be provided
11	Total connected load for PET Stretch Blow Moulding	KW	Max. 80 KW
12	M/c dimensions L x W x H	mtr	specify
13	Dimensions with preform feeder L x W x H (mtr)	mtr	specify

Chiller system

Model :			
1	Nominal cooling capacity in TR	TR	10
2	Min. Temperature achieved	°C	8 to 12
3	Max. Flow rate to process	LPM	25 to 30
4	Max. Water pressure	Bar	4
5	Water reservoir capacity	ltr	Min. 30

7	Connected load	KW	Max. 20 KW
9	Control	-	Microprocessor control
10	Safety		Appropriate safety features to be provided, Alarm etc
11	Machine Dimensions	-	specify

High pressure Oil Free Air Compressor

Model :

1	Working Pressure	Bar	30 to 40
2	Capacity	CFM	32 to 140
3	Receiver tank	Ltr	Min. 500 & above
4	Total Connected Load	KW	Upto 30 KW-lower preferred
5	Machine Dimensions (LxWxH)	-	specify
6	Safety	-	Appropriate safety features to be provided like Alarm, pressure relief valve, etc.
7	Essential Machine Spares	-	Intake Filter, Wide and adjustable pressure switch (Auto cut-in cut-off of compressor), pressure gauge, Auto Drain Valve, submicron fine filter, check valve, V – belts, belt guard, Flywheel, Motor Pulley, DOL starter etc.

Moisture seperator

1	Working Pressure	Bar	20 to 80
2	Capacity	CFM	35 to 60

Refrigerated Air Drier

1	Working Pressure	Bar	20 to 80
2	Capacity	CFM	35 to 60
3	connected Load	KW	Max. 15
4	Machine Dimensions (LxWxH)	-	specify

7. Microprocessor controlled Injection Moulding Machine 400-450T

Sl. No	Item	Unit	Specication
Injection Unit			
1	Shot Capacity (in GPPS)	g	1600 and above
2	SCREW DIAMETER	mm	70-90
3	SCREW L/D RATIO	-	Specify
4	INJECTION PRESSURE	bar	1400 and above Multi stage
5	INJECTION Speed	mm/sec	250 and above
6	INJECTION RATE	cc/sec	300 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	60 and above
8	Max. SCREW SPEED	rpm	140 and above
9	Heating Capacity	kw	Specify
Clamping Unit			
10	CLAMP FORCE	ton	400-450

11	Mould Opening Stroke	mm	800 and above
12	MAXIMUM DAYLIGHT	mm	1600 and above
13	MINIMUM MOULD HEIGHT	mm	Specify
14	Maximum Mould Height	mm	800 and above
15	PLATEN SIZE	mm	1000 X 1000 and above
16	DISTANCE BETWEEN TIE ROD	mm	800 X 800 and above
17	EJECTOR STROKE	mm	150 and above (Multi point and Multi Stage)
18	EJECTOR FORCE	Kn	Min. 100
19	MOULD WEIGHT CAPACITY	kg	4000 and above.
20	Hydraulic Multiple core pulling unit	-	4 Core pulling
21	Multi stage Air Ejection	-	Specify and Quote (Minimum 5 point)
22	Clamping Mechanism	-	Toggle

General

23	T Slot Platen	-	T Slot is Preferred
24	Injection unit on LM guides	-	Specify and Quote
25	Robot Interface	-	Specify and Quote
26	Hot Runner Interface	-	Specify and Quote (Minimum 4 Zones)
27	Interface for Gas Assisted Injection	-	Specify and Quote
28	Water inlet & outlet manifold for Mould cooling	-	Min. 12/12 Channel
29	Computer connectivity	-	Specify
30	Hopper loader cum drier	-	Specify and Quote for suitable capacity
31	Essential/Standard spares	-	Specify and Quote (Standard Tool Kit, NRV, Thermocouple, Band Heater, Short/Extended Nozzle, SSR, Proximity Switch, Limit Switch, Mould Clamps, T-Nut and Studs, Etc.,)
32	Safety	-	Specify the Special safety provisions
33	Motor / Pump Type	-	Servo
34	Motor load	-	Specify
35	Machine Dimensions (LxWxH)	-	Specify
36	Total connected load	-	Specify
37	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

8. Multi Blades Scrap Grinder/Granulator

S.No	Items	Units	Specification
1	No. of Moving/Rotary Blades	No.	05 - 08 inch x 09 Nos. (Per row 03 blades are to be arranged in an angular distance of 15 to 60 degree)
2	No. of Fix Blades	No.	15 - 18 inch 2 nos
3	No of Blades	No.	2 nos fixed and 09 nos moving

4	Motor capacity	KW	7.5
5	Essential spares		1) Mesh 5 mm 01 no and 08 mm 01 no 2) one set of moving blade (09 nos) and oneset of fixed bleds (02 nos)
6	Hopper Throte Size	Inch	16 inch x 16 inch
7	Grinding Capacity	Kg/ hr	75 - 100 kg per hour
8	Grinded Particle size	mm	5 to 8
9	Material to be Grinding		Plastics Products as well as Rubber Products

9. Rotational moulding Machine with Pulveriser

S.No	Items	Units	Specification
	Model		
	Rotational Moulding		
1	Station /Arm	Nos.	Single
2	The maximum volume of manufactured container	liter	500 ltr
3	Processing material		PE/ PP/ PVC
4	Arm drive		AC Drive
5	Heating Type		LPG Burner type
6	Max. Temperature	Deg. Celcius	250
7	Fuel consumption	Ltr /Cycle	Max. 4
8	Cooling process		Air cooling
9	Power required		Specify
7	Major Arm Speed	rpm	0-8
8	Minor Arm Speed	rpm	0-8
9	Control system		Microprocessor or PLC based
10	Dimensions of the machine	L x W x H (mtr)	Please specify
	PULVERISER		
11	Pulveriser type	-	Disc Mill
12	Disc diameter	mm	Max. 500
13	Raw Material Used	-	LLDPE / HDPE
14	Output	kg/Hr	Max. 60 - 80
15	Particle size	US Mesh	35 - 45
16	Vibro sieve	mm	Max. 1000
17	Blower Motor	HP	Please specify
18	Water Cooling at		Starter ,Rotar ,Main Shaft
19	Main Mill motor	HP	Specify
20	Connected load	KW	Specify
21	Machine Dimensions	-	Specify
22	Control Pannel	-	PLC control
23	Safety		Appropriate safety features to be provided, Alarm etc