

**Technical Specification for Processing Equipments Ten. No. 02/2019-20**

**1 All Electric Microprocessor Controlled Automatic Injection Moulding Machine 180-200T**

Sl. No	Item	Unit	Specication
	<b>Injection Unit</b>		
1	Shot Capacity (in GPPS)	g	Min. 200 and above
2	SCREW DIAMETER	mm	40-55
3	SCREW L/D RATIO	-	20:1 to 22:1
4	INJECTION PRESSURE	bar	Min. 1600
5	INJECTION Speed	mm/sec	Min. 250
6	INJECTION RATE	cc/sec	Min. 250
7	PLASTICIZING RATE (GPPS)	gm/sec	Min. 30
8	Max. SCREW SPEED	rpm	Specify
9	Bi-metallic Screw Barrel	-	(Optional) Specify and Quote
10	Heating Capacity	kw	Specify
	<b>Clamping Unit</b>		
11	CLAMP FORCE	ton	180-200
12	Mould Opening Stroke	mm	Secify
13	MAXIMUM DAYLIGHT	mm	(1000 and above) Specify
14	MINIMUM MOULD HEIGHT	mm	max.200
15	Maximum Mould Height	mm	Min. 550 and above
16	PLATEN SIZE	mm	min. 750 x 750 and above
17	DISTANCE BETWEEN TIE ROD	mm	Min. 500 X 500 and above
18	EJECTOR STROKE	mm	Minimum 100 (Multi point and Multi Stage) Specify
19	EJECTOR FORCE	ton	Specify
20	MOULD WEIGHT CAPACITY	kg	Specify
21	Hydraulic Multiple core pulling unit	-	specify and quote (Minimum 2 core pulling)
22	Multi stage Air Ejection	-	Specify and Quote (Minimum 5 point)
	<b>General</b>		
23	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
24	Latest Square Platen	-	Specify and Quote
25	Latest Technology Injection unit on LM guides	-	Specify and Quote
26	Robot Interface	-	Specify and Quote
27	Hot Runner Inerface	-	Specify and Quote (Minimum 4 Zones)
28	Interface for Gas Assisted Injection	-	Specify and Quote
29	Water inlet & outlet manifold for Mould cooling	-	Min. 10/10 Channel
30	Computer connectivity	-	Specify
31	Hopper loader cum drier	-	Specify and Quote for suitable capacity
32	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.,)
33	MTC (Oil Type)	-	Specify and Quote
34	Safety	-	Specify the Special safety provisions
35	Machine Dimensions (LxWxH)	m	Specify

36	Total connected load	-	Specify
37	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

## 2 Two Color Micro Processor Injection Moulding Machine (250-275 T)

Injection Unit			Unit-I
1	Shot Capacity (in GPPS)	g	Minimum 800
2	SCREW DIAMETER	mm	60-70
3	SCREW L/D RATIO	-	Specify
4	INJECTION PRESSURE	bar	1000-1500
5	INJECTION Speed	mm/sec	Minimum 180
6	INJECTION RATE	cc/sec	Min. 300 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify (higher will be preferred)
8	Max. SCREW SPEED	rpm	Specify
9	Heating Capacity	kw	Specify
			Unit-II
10	Shot Capacity (in GPPS)	g	Minimum 60
11	SCREW DIAMETER	mm	30-40
12	SCREW L/D RATIO	-	Specify
13	INJECTION PRESSURE	bar	1500-1800
14	INJECTION Speed	mm/sec	Minimum 250
15	INJECTION RATE	cc/sec	Min. 90 and above
16	PLASTICIZING RATE (GPPS)	gm/sec	Specify (higher will be preferred)
17	Max. SCREW SPEED	rpm	Specify
18	Heating Capacity	kw	Specify

### Clamping Unit

19	CLAMP FORCE	ton	250-275
20	Mould Opening Stroke	mm	Specify
21	MAXIMUM DAYLIGHT	mm	Specify
22	MINIMUM MOULD HEIGHT	mm	Max.250
23	Maximum Mould Height	mm	1100
24	PLATEN SIZE	mm	Min. 800 x 800 above
25	DISTANCE BETWEEN TIE ROD	mm	Min. 600 X 600 above
26	EJECTOR STROKE	mm	Minimum 150 (Multi point and Multi Stage) Specify
27	EJECTOR FORCE	ton	Specify
28	MOULD WEIGHT CAPACITY	kg	Specify
29	Hydraulic Multiple core pulling unit	-	specify and quote (Minimum 2 core pulling)
30	Multi stage Air Ejection	-	Specify and Quote (Minimum 5 point)
31	Clamping Mechanism	-	Specify

### General

32	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
33	Latest Square Platen	-	Specify and Quote
34	Latest Technology Injection unit on LM guides	-	Specify and Quote
35	Robot Interface	-	Specify and Quote
36	Hot Runner Interface	-	Specify and Quote (Minimum 4 Zones)
37	Interface for Gas Assisted Injection	-	Specify and Quote
38	Water inlet & outlet manifold for Mould cooling	-	Min. 12/12 Channel
39	Computer connectivity	-	Specify

40	Hopper loader cum drier	-	Specify and Quote for suitable capacity
41	Essential/Standard spares	-	Specify and Quote (Standard Tool Kit, NRV, Thermocouple, Band Heater, Short/Extended Nozzle,
42	MTC (Oil Type)	-	Specify and Quote
43	Safety	-	Specify the Special safety provisions
44	Motor / Pump Type	-	Servo
45	Motor load	-	Specify
46	Machine Dimensions (LxWxH)	-	Specify
47	Total connected load	-	Specify
48	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

### 3                      MICROPROCESSOR CONTROLLED AUTOMATIC INJECTION MOULDING MACHINE 80Ton

<b>Injection Unit</b>			
1	Shot Capacity (in GPPS)	g	120 and above
2	SCREW DIAMETER	mm	30-40
3	SCREW L/D RATIO	-	Specify
4	INJECTION PRESSURE	bar	Min. 1600 and above
5	INJECTION Speed	mm/sec	Specify
6	INJECTION RATE	cc/sec	95 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify (higher will be preferred)
8	Max. SCREW SPEED	rpm	Specify
9	Heating Capacity	kw	Specify
10	Bi-metallic Screw Barrel	-	(Optional) Specify and Quote
<b>Clamping Unit</b>			
11	CLAMP FORCE	ton	80-100
12	Mould Opening Stroke	mm	min. 350 and above
13	MAXIMUM DAYLIGHT	mm	Min. 700 and above
14	MINIMUM MOULD HEIGHT	mm	Max.150
15	Maximum Mould Height	mm	Min. 350 and above
16	PLATEN SIZE	mm	Min. 500 x 500 above
17	DISTANCE BETWEEN TIE ROD	mm	Min. 310 x 310 above
18	EJECTOR STROKE	mm	Minimum 100 (Multi point and Multi Stage) Specify
19	EJECTOR FORCE	ton	Specify
20	MOULD WEIGHT CAPACITY	kg	Specify
21	Hydraulic Multiple core pulling unit	-	specify and quote (Minimum 2 core pulling)
22	Multi stage Air Ejection	-	Specify and Quote (Minimum 2 point)
23	Clamping Mechanism	-	Specify
<b>General</b>			
24	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
25	Latest Square Platen	-	Specify and Quote
26	Latest Technology Injection unit on LM guides	-	Specify and Quote
27	Robot Interface	-	Specify and Quote
28	Hot Runner Interface	-	Specify and Quote (Minimum 4 Zones))
29	Interface for Gas Assisted Injection	-	Specify and Quote
30	Water inlet & outlet manifold for Mould cooling	-	Min. 8/8 Channel

31	Computer connectivity	-	Specify
32	Hopper loader cum drier	-	Specify and Quote for suitable capacity
33	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.,)
34	MTC (Oil Type)	-	Specify and Quote
35	Safety	-	Specify the Special safety provisions
36	Motor / Pump Type	-	SERVO
37	Motor load	-	Specify
38	Machine Dimensions (LxWxH)	-	Specify
39	Total connected load	-	Specify
40	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

**4                      MICROPROCESSOR CONTROLLED AUTOMATIC INJECTION MOULDING MACHINE 300-320T**

<b>Injection Unit</b>			
1	Shot Capacity (in GPPS)	g	Minimum 750
2	SCREW DIAMETER	mm	60-80
3	SCREW L/D RATIO	-	Specify
4	INJECTION PRESSURE	bar	Min. 1500 and above
5	INJECTION Speed	mm/sec	Min. 180
6	INJECTION RATE	cc/sec	Min. 280 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify (higher will be preferred)
8	Max. SCREW SPEED	rpm	Specify
9	Heating Capacity	kw	Specify
10	Bi-metallic Screw Barrel	-	(Optional) Specify and Quote
<b>Clamping Unit</b>			
11	CLAMP FORCE	ton	300-320
12	Mould Opening Stroke	mm	Min. 600 and above
13	MAXIMUM DAYLIGHT	mm	Min. 1300 and above
14	MINIMUM MOULD HEIGHT	mm	Specify
15	Maximum Mould Height	mm	Min. 700 and above
16	PLATEN SIZE	mm	Min. 900 x 900 above
17	DISTANCE BETWEEN TIE ROD	mm	Min. 600 x 600 above
18	EJECTOR STROKE	mm	Min. 160 and above
19	EJECTOR FORCE	ton	Specify
20	MOULD WEIGHT CAPACITY	kg	Specify
21	Hydraulic Multiple core pulling unit	-	specify and quote (Minimum 2 core pulling)
22	Multi stage Air Ejection	-	Specify and Quote (Minimum 2 point)
23	Clamping Mechanism	-	Specify
<b>General</b>			
24	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
25	Latest Square Platen	-	Specify and Quote
26	Latest Technology Injection unit on LM guides	-	Specify and Quote
27	Robot Interface	-	Specify and Quote
28	Hot Runner Interface	-	Specify and Quote (Minimum 4 Zones)

29	Interface for Gas Assisted Injection	-	Specify and Quote
30	Water inlet & outlet manifold for Mould cooling	-	Min. 12/12 Channel
31	Computer connectivity	-	Specify
32	Hopper loader cum drier	-	Specify and Quote for suitable capacity
33	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.,)
34	MTC (Oil Type)	-	Specify and Quote
35	Safety	-	Specify the Special safety provisions
36	Motor / Pump Type	-	Servo
37	Motor load	-	Specify
38	Machine Dimensions (LxWxH)	-	Specify
39	Total connected load	-	Specify
40	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

## 5 MICROPROCESSOR CONTROLLED AUTOMATIC INJECTION MOULDING MACHINE 120-130Ton

<b>Injection Unit</b>			
1	Shot Capacity (in GPPS)	g	Min. 140 and above
2	SCREW DIAMETER	mm	40-50
3	SCREW L/D RATIO	-	Specify
4	INJECTION PRESSURE	bar	Min. 1600 and above
5	INJECTION Speed	mm/sec	Specify (higher will be preferred)
6	INJECTION RATE	cc/sec	min. 100 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify (higher will be preferred)
8	Max. SCREW SPEED	rpm	Specify
9	Heating Capacity	kw	Specify
10	Bi-metallic Screw Barrel	-	(Optional) Specify and Quote
<b>Clamping Unit</b>			
11	Clamping Mechanism	-	Specify
12	CLAMP FORCE	ton	120-130
13	Mould Opening Stroke	mm	Min. 350 and above
14	MAXIMUM DAYLIGHT	mm	Min. 800 and above
15	MINIMUM MOULD HEIGHT	mm	Max.200
16	Maximum Mould Height	mm	Min. 450 and above
17	PLATEN SIZE	mm	Min. 600 x 600 above
18	DISTANCE BETWEEN TIE ROD	mm	Min. 400 x 400 above
19	EJECTOR STROKE	mm	Minimum 100 (Multi point and Multi Stage) Specify
20	EJECTOR FORCE	ton	Specify
21	MOULD WEIGHT CAPACITY	kg	Specify
22	Hydraulic Multiple core pulling unit	-	specify and quote (Minimum 2 core pulling)
23	Multi stage Air Ejection	-	Specify and Quote (Minimum 2 point)
<b>General</b>			
24	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
25	Latest Square Platen	-	Specify and Quote

26	Latest Technology Injection unit on LM guides	-	Specify and Quote
27	Robot Interface	-	Specify and Quote
28	Hot Runner Interface	-	Specify and Quote (Minimum 4 Zones)
29	Interface for Gas Assisted Injection	-	Specify and Quote
30	Water inlet & outlet manifold for Mould cooling	-	Min. 10/10 Channel
31	Computer connectivity	-	Specify
32	Hopper loader cum drier	-	Specify and Quote for suitable capacity
33	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.,)
34	MTC (Oil Type)	-	Specify and Quote
35	Safety	-	Specify the Special safety provisions
36	Motor / Pump Type	-	Specify and Quote (Servo type preferred)
37	Motor load	-	Servo
38	Machine Dimensions (LxWxH)	-	Specify
39	Total connected load	-	Specify
40	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

## 6 SEMIAUTOMATIC HORIZONTAL INJECTION MOULDING MACHINE : 30-40 TONS

### Injection Unit

1	Shot Capacity (in GPPS)	g	Min. 35 and above
2	SCREW DIAMETER	mm	20-30
3	SCREW L/D RATIO	-	18:1 - 21:1
4	INJECTION PRESSURE	bar	Min.1600
5	INJECTION Speed	mm/sec	Specify
6	INJECTION RATE	cc/sec	Min. 20
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify (higher will be preferred)
8	Max. SCREW SPEED	rpm	Min. 170
9	Heating Capacity	kw	Specify
10	Bi-metallic Screw Barrel	-	(Optional) Specify and Quote

### Clamping Unit

11	CLAMP FORCE	ton	30-40
12	Mould Opening Stroke	mm	Min. 180
13	MAXIMUM DAYLIGHT	mm	Min.350
14	MINIMUM MOULD HEIGHT	mm	Specify
15	Maximum Mould Height	mm	Min. 155 and above
16	PLATEN SIZE	mm	Specify
17	DISTANCE BETWEEN TIE ROD	mm	Min. 210 x 210 above
18	EJECTOR STROKE	mm	Min. 13
19	EJECTOR FORCE	ton	Min. 4
20	MOULD WEIGHT CAPACITY	kg	Specify
21	Clamping Mechanism	-	Specify

### General

22	Control System	-	Specify and Quote
23	T Slot Platen	-	Specify and Quote (T Slot is Preferred)

24	Water inlet & outlet manifold for Mould cooling	-	Min. 4/4 Channel
25	Hopper Capacity	Kg	Specify and Quote for suitable capacity
26	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.,)
27	MTC (Oil Type)	-	Specify and Quote
28	Safety	-	Specify the Special safety provisions
29	Motor load	-	Specify
30	Machine Dimensions (LxWxH)	-	Specify
31	Total connected load	-	Specify
32	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

## 7 SEMI AUTOMATIC VERTICAL INJECTION MOULDING MACHINE 20-25 TONS

### Injection Unit

1	Shot Capacity (in GPPS)	g	Min. 30 and above
2	INJECTION PRESSURE	bar	Specify
3	INJECTION Speed	mm/sec	Specify
4	INJECTION RATE	cc/sec	Specify
5	Plasticizing capacity	Kg/Hour	Min. 8 and above
6	Heating Capacity	kw	Specify

### Clamping Unit

7	CLAMP FORCE	ton	20-25
8	Mould Opening Stroke	mm	Min. 150 and above
9	DISTANCE BETWEEN TIE ROD	mm	Min. 180 x 180 and above
10	Option for ejection	-	Specify
11	Clamping Mechanism	-	Specify
12	MOULD WEIGHT CAPACITY	kg	Specify

### General

13	Control System	-	Specify and Quote
14	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
15	Water inlet & outlet manifold for Mould cooling	-	Min. 4/4 Channel
16	Hopper Capacity	Kg	Specify and Quote for suitable capacity
17	Essential/Standard spares	-	Specify and Quote
18	MTC (Oil Type)	-	Specify and Quote
19	Safety	-	Specify the Special safety provisions
20	Motor load	-	Specify
21	Machine Dimensions (LxWxH)	-	Specify
22	Total connected load	-	Specify
23	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

## 8 SEMI AUTOMATIC VERTICAL INJECTION MOULDING MACHINE 30-40 TONS

### Injection Unit

1	Shot Capacity (in GPPS)	g	Min. 40
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2	SCREW DIAMETER	mm	25-40
3	SCREW L/D RATIO	-	
4	INJECTION PRESSURE	bar	Min.1200 and above
5	INJECTION Speed	mm/sec	Specify
6	INJECTION RATE	cc/sec	Min. 35 and above
7	PLASTICIZING RATE (GPPS)	gm/sec	Specify (higher will be preferred)
8	Max. SCREW SPEED	rpm	Min. 170
9	Heating Capacity	kw	Specify
10	Bi-metallic Screw Barrel	-	(Optional) Specify and Quote

### Clamping Unit

11	CLAMP FORCE	ton	30-40
12	Mould Opening Stroke	mm	Min. 180 and above
13	MAXIMUM DAYLIGHT	mm	340 and above
14	MINIMUM MOULD HEIGHT	mm	Specify
15	Maximum Mould Height	mm	Min. 150 and above
16	PLATEN SIZE	mm	Specify
17	DISTANCE BETWEEN TIE ROD	mm	min. 210 x 210 and above
18	EJECTOR STROKE	mm	Min 10 and above
19	EJECTOR FORCE	ton	Min. 3.5 and above
20	MOULD WEIGHT CAPACITY	kg	Specify
21	Clamping Mechanism	-	Specify

### General

22	Control System	-	Specify and Quote
23	T Slot Platen	-	Specify and Quote (T Slot is Preferred)
24	Water inlet & outlet manifold for Mould cooling	-	Min. 4/4 Channel
25	Hopper Capacity	Kg	Specify and Quote for suitable capacity
26	Essential/Standard spares	-	Specify and Quote (Standard Tool Kit, Thermocouple, Band Heater, Short/Extended Nozzle, SSR, Proximity Switch, Limit Switch, Mould Clamps, T-Nut and Studs, Etc.,)
27	MTC (Oil Type)	-	Specify and Quote
28	Safety	-	Specify the Special safety provisions
29	Motor load	-	Specify
30	Machine Dimensions (LxWxH)	-	Specify
31	Total connected load	-	Specify
32	Max. Power consumption @ full machine capacity	-	Specify (lower power consumption will be preferred)

## 9 MICROPROCESSOR CONTROLLED EXTRUSION BLOW MOULDING - 1/2 LITRE

<b>MODEL :</b>			
1	Container Capacity	ml	Upto 500
2	Screw Diameter	mm	Min. 30 and above
3	L/D ratio	-	20:1 - 22:1
4	Output	Kg/Hrs	Min. 10 and above
5	Max. Screw Speed	RPM	Min. 75
6	Die Diameter	mm	specify & quote
7	Mould Opening Stroke	mm	min.150
8	Mould Thickness	mm	Min. 170 and above
9	Mould Height	mm	Min. 200
10	Mould Width	mm	Min. 150



11	Plattern Size	mm	specify
12	Connected load	KW	specify
13	Parison control System	Points	10-50 points
14	Hot knife/ wire cutter	-	specify & quote
15	No. OF Stations and Heads	-	Single head and single station
16	Moulds to be supplied for 200ml & 500 ml along with machine	Each one no.	specify & quote
17	De-flashing system	-	Please specify & quote
18	Control System	-	Microprocessor/PLC Controls
19	iol pump motor power	HP	Specify
20	Compressed air pressure requirement	bar	Specify
21	Air Requirement	CFM	Min. 4 and above
22	Safety	-	Appropriate safety features to be provided
23	Machine Dimension (LxWxH)	mtr.	specify
24	Essential spares	-	specify & quote
25	Optional Double head and double station	-	specify & quote

**10 MICROPROCESSOR CONTROLLED SINGLE LAYER SINGLE STATION EXTRUSION BLOW MOULDING WITH PARISON PROGRAMMING - 5 LITRE**

<b>MODEL :</b>			
1	Container Capacity	ml	5000
2	Die Diameter	mm	80-160
3	Screw Diameter	mm	60-70
4	Screw L/D	--	20:1 - 22:1
5	Output (Plasticizing Capacity)	Kg/Hr.	Min. 60 and above
6	Mould Height	mm	Min. 400 and above
7	Mould Width	mm	Min. 280 and above
8	Mould Thickness	mm	Min. 250 and above
9	Mould opening Stroke	mm	Min. 200 and above
10	Clamping Force (Desirable)	Ton	Min. 8 ton and above
11	Extruder Drive Motor	KW(HP)	Specify and quote for power efficient
12	Servo Hydraulic Motor	KW(HP)	Specify and quote for power efficient
13	Heating Load	KW(HP)	Specify and quote for power efficient
14	Total Connected load	KW(HP)	Specify and quote for power efficient
15	Parison control System	Points	quote for multipoint parison control system for Minimum 100 point
16	Hot knife/ wire cutter		specify & quote
17	Single layer Single Head		specify & quote for Single layer Single Head type
18	Moulds to be supplied for 1000ml & 5000 ml along with machine	Each one	specify & quote
19	Control System	-	Microprocessor/Computer Integrated control
20	Angular Blowing Attachment		specify & quote
21	Compressed air pressure requirement	bar	Specify

22	Air Requirementment	CFM	Min. 10 and above
23	Safety	-	Appropriate safety features to be provided
24	Machine Dimension (LxWxH)	mtr.	specify & quote
25	Essential spares	-	specify & quote
26	<b>Optional Spares</b>		
a.	Water Inlet/Outlet Manifold for mould cooling		specify & quote
b.	Bottom Bowing System		specify & quote
c.	De-flashing system	-	specify & quote
d.	Optional Double station		specify & quote

**11 MICROPROCESSOR CONTROLLED SINGLE LAYER DOUBLE STATION EXTRUSION BLOW MOULDING WITH PARISON PROGRAMMING , Capacity - 1 LITRE**

<b>MODEL :</b>			
1	Container Capacity	ml	500 - 1000
2	Die Diameter	mm	20-80
3	Screw Diameter	mm	40-50
4	Screw L/D	--	20:1 - 22: 1
5	Output (Plasticizing Capacity)	Kg/Hr.	0-75
6	Mould Height	mm	Min. 200 and above
7	Mould Width	mm	Min. 180 and above
8	Mould Thickness	mm	170 and above
9	Mould opening Stroke	mm	150 and above
10	Clamping Force (Desirable)	Ton	Specify and quote
11	Extruder Drive Motor	KW(HP)	Specify and quote for power efficient
12	Servo Hydraulic Motor	KW(HP)	Specify and quote for power efficient
13	Heating Load	KW(HP)	Specify and quote for power efficient
14	Total Connected load	KW(HP)	Specify and quote for power efficient
15	Parison control System	Points	Kindly quote for multipoint parison control system for Minimum 100 point
16	Hot knife/ wire cutter		specify & quote
17	Double Station with Single Head		specify & quote
18	Moulds to be supplied for 1000ml & 500 ml along with machine	Each one	specify & quote
19	Control System	-	Microprocessor/Computer Integrated control
20	Angular Blowing Attachment		specify & quote
21	De-flashing system	-	specify & quote
22	Safety	-	Appropriate safety features to be provided
23	Machine Dimension (LxWxH)	mtr.	specify & quote
24	Essential spares	-	specify & quote
25	<b>Optional Spares</b>		
a.	Water Inlet/Outlet Manifold for mould cooling		specify & quote
b.	Bottom Bowing System		specify & quote
c.	Double Head Attachment and Double station		specify & quote

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**INJECTION STRETCH BLOW MOULDING MACHINE 500 ml**

1	Container Volume	ml	upto 600
2	SCREW DIAMETER	mm	40-50
3	Materials could be processed	-	Specify and Quote (PET,PC,PP,PE,Etc.,)
4	Injection capacity	g	Min. 120
5	No. of cavity	nos	Min. 2 (specify and quote for more)
6	Output (bottle per hour)	Nos.	480 and above
7	Injection clamping force	KN	50 and above
8	Blow clamping force	KN	70 and above
9	Driving Power (Rated)	KW	specify and quote
10	Heater capacity	KW	specify and quote
11	Oil Tank Capacity	Ltr	250 and above
12	Machine Dimension (LxWxH)	mm	specify
13	Machine Weight	Ton	specify
14	Total Connected load	KW(HP)	Quote for power efficient
15	Maximum power consumption at full capacity of machine	KW/Hour	specify and quote
16	Moulds to be supplied for 500ml Bottle		specify and quote
17	Control System	-	Microprocessor/Computer Integrated control
18	Safety	-	Appropriate safety features to be provided
19	Essential spares	-	specify and quote
20	<b>OTHER FEATURES</b>	-	specify and quote
	i) Dehumidifier	-	specify and quote
	ii) Preform preheating system	-	specify and quote
	iii) Preform feeding	-	specify and quote
	iv) Air supply and cooling water pressure system	-	specify and quote

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**MICROPROCESSOR CONTROLLED PET PREFORM STRETCH BLOW MOULDING MACHINE - 2-5 LITRE CAPACITY**

1	Container volume	ml	2000 - 5000 (specify the minimum and maximum volume)
2	Output (bottle per hour) (Min.-Max.)	Nos.	800-1500
3	No. of cavities	Nos.	1 - 2
4	Max. Container height	mm	max. 350
5	Max. Container Diameter	mm	specify and quote
6	Moulds: Suitable for 1000 ml, 2000ml and 5000 ml. product size	-	specify and quote
7	Preform neck diameter	mm	25 - 140, specify and quote
8	Microprocessor Control System	-	specify and quote
9	preform holder for different diameter	-	specify and quote
10	<b>OTHER FEATURES</b>	-	
11	i) Preform preheating system	-	specify and quote (lower power consumption is preferred)
12	ii) Preform feeding	-	specify and quote

13	iii) Suitable Air supply and chilled water supply system requirement	-	specify and quote
14	Safety	-	Appropriate safety features to be provided
15	Essential Spares	-	specify and quote
16	Total connected load	-	specify and quote
17	M/c dimensions	-	specify and quote

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**MULTILAYER EXTRUSION BLOWN FILM UNIT**

1	Extruder -Three layer	3 nos	Multipurpose single screw
2	Screw Diameter	mm	25 – 35
3	Screw Speed	RPM	specify and quote
4	Screw L/D Ratio	-	specify
5	Extruder Output	Kg/hr	Min. 30 and above
6	Main Motor	HP	Specify and quote
7	Drive Type	-	Specify and quote
8	Film Thickness	Micron	20-150
9	Line Speed	Mtrs/Min	Specify and quote
10	Material	-	All Thermoplastic materials
11	Heating system	-	PID Temperature controller system in all Zones including die
12	Heaters capacity	kw	Specify and quote
13	Lay Flat Width	mm	250 -1000
14	Control System- Microprocessor type	-	specify and quote
15	Plant should have either rotating/Oscillating Die/Oscillating nip, Melt temperature sensor & Melt Pressure transducers, Synchronised Winder control, cooling air ring, irish ring with gusseting device and slitting with dual winder.	-	specify and quote
16	Nip Roller Closing mechanism	-	specify and quote
17	Suitable Die sets to be provided	-	specify and quote
18	Corona Treater	-	specify and quote
19	Power Consumption	KW	Specify
20	Safety	-	Appropriate safety features to be provided
21	Essential Spares	-	Specify & Quote

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**SINGLE LAYER EXTRUSION BLOWN FILM UNIT WITH SUITABLE CARONA TREATER**

1	Screw Diameter	mm	40-50
2	Screw L/D Ratio	-	Specify
3	Extruder Output	Kg/hr	40-80
4	Film Thickness	Micron	10-100
5	Material	-	Specify and quote (HM/HDPE/LDPE/LLDPE)
6	Lay Flat Width	mm	100-700

7	Control System	-	Microprocessor/ PLC Controls/ Computer Integrated Control with synchronisation of whole plant for single point of control
8	Heat Capacity	KW	Specify
9	Drive Motor	HP	Specify
10	Screen Changer	-	Specify
11	Plant should have either rotating/Oscillating Die	-	Suitable units for above extruder size to be provided
12	Melt temperature sensor & Melt Pressure transducers	-	Suitable units for above extruder size to be provided
13	Slitting and winder arrangement		Double station surface winder
14	Total connected load	KW	Please specify and quote
15	Corona Treater	-	Specify and quote
16	Safety	-	Appropriate safety features to be provided
17	Machine Dimensions (LxWxH)		Specify and quote
18	Safety	-	Appropriate safety features to be provided
19	Essential/Standard spares	--	Specify and quote for Standard spares like Die sets, Filters, Heaters , Oscillating take off unit etc for proper functioning of machine.
20	<b>Optional spares/Accessories</b>		
a)	Die for HM/HDPE/LDPE/LLDPE		Specify and quote for compatible with above machine
b)	Hopper Loader cum drier		Specify and quote for compatible with above machine
c)	Gravimetric system for weight/meter control		Specify and quote for compatible with above machine
d)	Ultrasonic thickness measurement system		Specify and quote for compatible with above machine
e)	Water cooling arrangement		Specify and quote for compatible with above machine

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## Extruder Recycling machine

<b>MODEL :</b>			
1	Screw Dia	mm	70 - 80
2	L/D Ratio	--	Please specify and quote
3	Materials	--	Most of the thermoplastics
4	Output	Kg/hr	70-100
5	Temp.	Deg.C	Upto 400
6	Feeding system	--	Suitable Main & Side Feeding systems
7	Down stream equipments		Please specify and quote
8	Strand die		Specify number of strands
9	Stainless Steel Cooling Trough		Please specify and quote
10	Strand Pelletizer (Synchronized cutter to be incorporated for Strand.)		Please specify and quote
11	Standard Accessories		Please specify and quote
12	Mixing elements & others		Please specify and quote
13	Spares		Please specify and quote
14	Control- Microprocessor type		Micropocessor With disply of Screw Torque & die Head Melt Pressure Please specify and quote

15	Safety	-	Appropriate safety features to be provided
16	Computer connecting, data storage, & Analysis		Please specify and quote
17	Melt Pressure and Temperature sensors		Please specify and quote
18	M/c dimension		Please specify and quote
19	Optional Accessories / Attachments	--	Please specify & quote
20	Total Connected load	KW	Please specify

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**TWIN SCREW Compounder**

<b>MODEL :</b>			
1	Extruder	--	- Multi purpose co-rotating parallel twin screw - Segmental type with venting
2	Screw Dia	mm	15-20
3	L/D Ratio	--	Please specify and quote
4	Torque	NM	Please specify and quote
5	Materials	--	All thermo plastics
6	Output	Kg/hr	5-15 kg/hr
7	Screw speed	RPM	Please specify and quote
8	Temp.	Deg.C	Upto 400
9	Feeding system	--	Suitable Main & Side Feeding systems
10	Down stream equipments		Please specify and quote
11	Strand die		Please specify and quote
12	Stainless Steel Cooling Trough		Please specify and quote
13	Strand Pelletizer (Synchronized cutter to be incorporated for Strand.)		Please specify and quote
14	Standard Accessories		Please specify and quote
15	Mixing elements & others		Please specify and quote
16	Spares		Please specify and quote
17	Control- Microprocessor type		Microprocessor With display of Screw Torque & die Head Melt Pressure Please specify and quote
18	Safety	-	Appropriate safety features to be provided
19	Computer connecting, data storage, & Analysis		Please specify and quote
20	Melt Pressure and Temperature sensors		Please specify and quote
21	M/c dimension		Please specify and quote
22	Optional Accessories / Attachments	--	Please specify & quote
23	Total Connected load	KW	Please specify

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**PULVERISER**

<b>Model :</b>			
1	Pulveriser type	-	Disc Mill
2	Disc diameter	mm	Please specify and quote
3	Double side disk	-	Please specify and quote
4	Raw Material Used	-	LDPE/LLDPE/HDPE etc.,
5	Output	kg/Hr	Min. 75 and above
6	Particle size	Mesh	35 - 45
7	Vibro siever	-	Please specify and quote

8	Air lock valve	-	Please specify and quote
9	Blower Motor	HP	Please specify and quote
10	Water Cooling at		Starter ,Rotor ,Main Shaft
11	Main Mill motor	HP	Please specify and quote
12	Connected load	KW	Please specify and quote
13	Machine Dimensions	-	Please specify and quote
14	Control Panel	-	Microprocessor/PLC Controls/Computer Integrated control
15	Safety		Appropriate safety features to be provided, Alarm etc

**19 ROTATIONAL MOULDING MACHINE WITH PULVERISER**

1	Station	Nos.	Single
2	The maximum volume of manufactured container	liter	500 ltr
3	Arm	Nos.	Single
4	Heating Type		Please specify and quote
5	Pulveriser Output	Kg/ hour	min. 80 kg per hour
6	Capacity	Cycle / hour	Please specify and quote
7	The size of the heating chamber,	mm (length, height, width)	Please specify and quote
8	Control system - programmable controller		Please specify and quote
9	fuel consumption	Litre/ hour or Kg/Hr	Please specify and quote
10	Dimensions of the machine	Feet (length, height, width)	Please specify and quote
11	Processing material		PE/ PP/ PVC
12	Mould to be supplied for 500 liter tank		Please specify and quote
13	Total Connected load	KW	Please specify

**20 HYDRAULIC COMPRESSION MOULDING MACHINE 30-40 TONS**

<b>MODEL :</b>			
1	Capacity/Capability	Ton	30 -40 Tons, For processing Thermoset Plastics like PF, UF, MF,SMC/DMC etc.,
2	Platen size	mm	Min. 300 x 300
3	Day Light	mm	Min. 400
4	Heating system for plattern and mould		Please Specify & Quote
5	Maximum Working Temperature	° C	upto 350
6	Working Pressure	bar	Please Specify & Quote
7	Control System		Microprocessor/PLC Controls/Computer Integrated control
8	Demo mould	--	Please specify and quote for one mould for a typical product with Ejection System
9	Safety	-	Appropriate safety features to be provided
10	Essential Spares	--	Please Specify & Quote
11	Machine dimensions (LxWxH)	mtr	Please Specify & Quote
12	Total Connected load	KW	Please specify

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**AUTOMATIC THERMOFORMING MACHINE**

Model :			
1	Forming Area (Min.)	mm	550 x 300 & above
2	Forming Depth / Draw	mm	Please specify and quote
3	Max. Sheet Width	mm	Please specify and quote
4	Sheet Thickness (Min. –Max.)	mm	Please specify and quote
5	Top heating	kW	Please specify and quote
6	Bottom heating	kW	Please specify and quote
7	Material to be formed	-	PS/ PP/ PE /PET/PVC etc.
8	Plug assisted attachment	-	Please specify and quote
9	Vacuum Forming / Pressure Forming.	-	Please specify and quote
10	Sheet roll feeding/ Disposal after forming system attachment	-	Please specify and quote
11	Safety	-	Appropriate safety features to be provided
12	Other Features	-	Please specify and quote
13	Essential Spares	-	Please Specify & Quote
14	Demonstration multicavity mould for products like cup, tray, etc.	-	Please specify and quote
15	Connected load	KW	Please specify and quote
16	Compressor		Please Specify and quote

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**Corona Treater**

Model :			
1	Treatment Size	mm	100-700
2	Speed	Meter/Min.	20-100
3	Dynes level	Dynes/cm	30-50
4	Type of electrodes		Specify and quote
5	Treatment sides		2
6	Output Power	KW	Specify and quote

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**DEHUMIDIFIER**

Model :			
1	Drying Bin Capacity	Kg	75-100
2	Dry air quantity	m3/hr	Please specify and quote
3	Dew point	°C	Please specify and quote
4	Temperature range	°C	60-150
5	Standard accessories	-	Please specify and quote
6	i) Accurate digital readout of process temperature against set point $\pm 1^{\circ}\text{C}$		
7	ii) Easy to service and maintain : Side panels easily openable		
8	Connected load	KW	Please specify and quote
9	Dimensions	-	Please specify and quote
10	Control	-	Microprocessor/PLC Controls/Computer Integrated control
11	Safety		Appropriate safety features to be provided, Alarm etc

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**FILM CUTTING & SEALING MACHINE**



<b>Model</b>			
1	Type	mm	Impulse, Floor model foot operated
2	Max Sealing Cutting Size	mm	Max 600
3	Operation	---	Automatic
4	Cutting Speed		500 per Hour
5	Power Supply		Please Specify and quote
6	Safety	-	Appropriate safety features to be provided
7	Other features	--	Suitable Timer & buzzer to be incorporated
8	Essential Spares	-	Please Specify & Quote
9	Machine dimensions (LxWxH)	mtr	Please Specify & Quote
10	Heating Device		One side Single & other Double Sealing Arrangement
11	Counter		Electronic Bag Counter

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**HIGH SPEED MIXER**

<b>Model :</b>			
1	Mixing capacity	Kg	35-50
2	Drive (Dual Speed)		Please Specify & Quote
3	Mixing Time	Min	8-12
4	Rotar speed	Rpm	Please Specify & Quote
5	Vessel/ Container		Made out of double walled with water cooling facility, inner wall, rotor blade and wiper should be made out of SS, Hot and Cold Mixture Suitable for PVC
6	Power Supply		Please Specify & Quote
7	Safety		Appropriate safety features to be provided
8	Drive control Pannel with Temp, Torque, & Timer with Hooter		Please Specify & Quote
9	Temperature indicator/timer		Please Specify & Quote
10	Essential Spares		Please Specify & Quote

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**Hopper drier with Automatic loader Unit**

1	Drying Bin Volume	Ltr	75-120
2	Air Volume	m3/hr	80-120
3	Temperature range	°C	60-150
4	Standard accessories	-	Please specify and quote
5	· Accurate digital readout of process temperature against set point $\pm 1^{\circ}\text{C}$		
6	Connected load	KW	Please specify and quote
7	Dimensions	-	Please specify and quote
8	Control	-	Microprocessor control
<b>Loader Specification</b>			
9	Storage volume	Ltr	Please specify and quote
10	Connected load	KW	Please specify and quote
11	Material Throughput	kg/hr	Please specify and quote
12	Safety	-	Appropriate safety features to be provided, Alarm etc
13	Standard accessories	-	Please specify and quote

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**HOT STAMPING MACHINES**

<b>Model :</b>			
1	Stamping area	mm	150*250 (Movable)
2	Type		Pneumatic/Hydraulic
3	Maximum Pressure	Kg	800
4	Power Used	KW	Please Specify and quote
5	Stamping stroke	mm	Please Specify and quote
6	Machine Dimensions	(L x W x H)	Please Specify and quote
7	Temperature	°C	0°C-300°C
8	Hot Stamping Speed	Pcs/hrs	800
9	Time	Sec.	0 – 10
10	Safety	-	Appropriate safety features to be provided
11	Control System		Microprocessor type
12	Automatic foil feeding system		Please Specify & Quote
13	Essential Spares		Please Specify & Quote

### 28 HYDRAULIC, PNEUMATIC - CUT SECTIONS

1	Hydraulic and Pneumatic cut sections		2 sets - To provide detailed knowledge on various components like Hydraulic and Pneumatic Pumps, Actuators (Cylinders / Rotary Motors), Directional Valves, Servo Valves, Flow Control (Pressure / Temperature Compensation) Valves, Pressure Control Valves, etc.
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### 29 MOULD TEMPERATURE CONTROLLER UNITS (MTC)

<b>Model :</b>			
1	Capacity (Max. Temperature)	°C	Ambient to 200°C
2	Fluid		Oil
3	Flow rate	LPM	Please specify and quote
4	Heating capacity	KW	Please specify and quote
5	Pressure	Bar	Please specify and quote
6	Heating Pipe		Stainless Steel
7	Standard accessories		Please specify and quote
8	Safety	-	Appropriate safety features to be provided like Pump Reversal, Oil Shortage, overheating/Pump overload etc
9	Machine dimensions (LxWxH)	mtr	Please specify and quote
10	Essential spares		Please specify and quote
	<ul style="list-style-type: none"> <li>· Accurate digital readout of process temperature against set point <math>\pm 1^\circ\text{C}</math></li> <li>· Easy to service and maintain : Side panels easily openable</li> <li>· Tubular cooling coil and stainless steel heater</li> <li>· Reliable and high performance pump</li> <li>· All moveable parts in contact with the water medium made of stainless steel</li> </ul>		

### 30 NON-CONTACT LASER INFRARED THERMOMETER TEMPRATURE GUN

1	Display Type		Digital
2	Display Size		1.9 Inches & Under
3	Style		Handheld
4	Temperature Range		18C~850C

5	Power Type		9v Alkaline or NiCd battery
6	Distance Spot Ratio		20:1
7	Repeatability		1% of reading or 1C
8	Response time		500 mSec, 95% response
9	Emissivity		0.10 to 1.00 adjustable (pre-set 0.95)
10	Relative humidity		10-95% RH noncondensing
11	Built in Memory		Recall for 40 Readings
12	Spectral response		Please specify and quote
13	Essential spares		Please specify and quote

**31 Hot Air Oven 100 kg**

1	Capacity	Ltr	200 and above (100 kg)
2	Display		Digital
3	Inner Size (WxDxH)	cm	specify
4	Heater Load	Kg/Hr	Please Specify and quote
5	No. Of Shelves	nos	6 -10
6	Temperature Range	C	Upto 300
7	Temperature Uniformity		+/- 2 deg C
8	Insulation	-	Please Specify and quote
9	Safety Device	-	Thermostat/ please specify and quote
10	Type	-	Forced Convection System/ others
11	Temperature Controller	-	Digital Temperature Controller Cum Indicator
12	Power		Please Specify & Quote
13	Electrical Supply	-	Please Specify & Quote
14	Essential Spares		Please Specify & Quote

**32 PLASTIC LUMP CUTTING MACHINE (Shredder)**

1	Output	kg/hour	100-150
2	Roter OD	mm	Specify
3	Fix Blade		Min 2
4	Mesh Size	mm	50
5	Motor Power	HP	20
6	Reducer Box		Hard surface gears box
7	Rotor Blade Quantity		26 pieces and above
8	Blade Material		Special Tool Material
9	Hardness of Blade		Hrc58-60
10	Working Power		Please specify and quote
11	Essential spares		Please specify and quote

**33 SCRAP GRINDER**

1	No. of Rotary Blades	No.	5-8
2	Length of R. Blades	mm	250-350
3	No. of Fix Blades	No.	Min 2
4	Length of Fix Blades	mm	250-350
5	Rotor Diameter	mm	150 and above
6	Feed Opening		Please Specify and quote
7	HP		Please Specify and quote
8	Output	Kg/hr	50-80
9	Essential spares		Please specify and quote

**34****Screen Printing Machine**

1	Print Area	mm	Min 200mm X 300 mm
2	Screen Frame Size	mm x mm	Min. 500 mm x 500 mm
3	Max off-Contact	mm	10
4	Max substrate Thickness	mm	5 ~ 7 mm (Depends on mesh tension)
5	Screen Frame Thickness	inch	1.0" ~ 1.5"
6	Power Consumption	-	Please specify and quote
7	Essential spares		Please specify and quote

**35****VACCUM OVEN WITH PUMP**

1	Display Type	-	LCD with micro controller
2	Oven Electrical Requirements	-	Please Specify
3	Pump Electrical Requirements	-	Please Specify and quote(dual stage)
4	Shelves Included / Maximum Capacity	-	5/10 (Aluminium )
5	Oil Reservoir Volume / Oil Type	-	560 mL (0.6 quarts) / UltraGrade 19
6	Vacuum Tubing	-	Stainless steel
7	Working Temperature	-	100°C ~ 350°C
8	Oven Vacuum Port Connection	-	Please Specify
9	Gas Inlet Connection	-	Please Specify and quote
10	Ultimate Vacuum Level	-	Better than 500 microns/millitorrs
11	Essential spares	-	Please specify and quote
12	Other Requirement		Built-in vacuum gauge, alarm and circuit breaker