

[www.esemplastavinya.com](http://www.esemplastavinya.com)

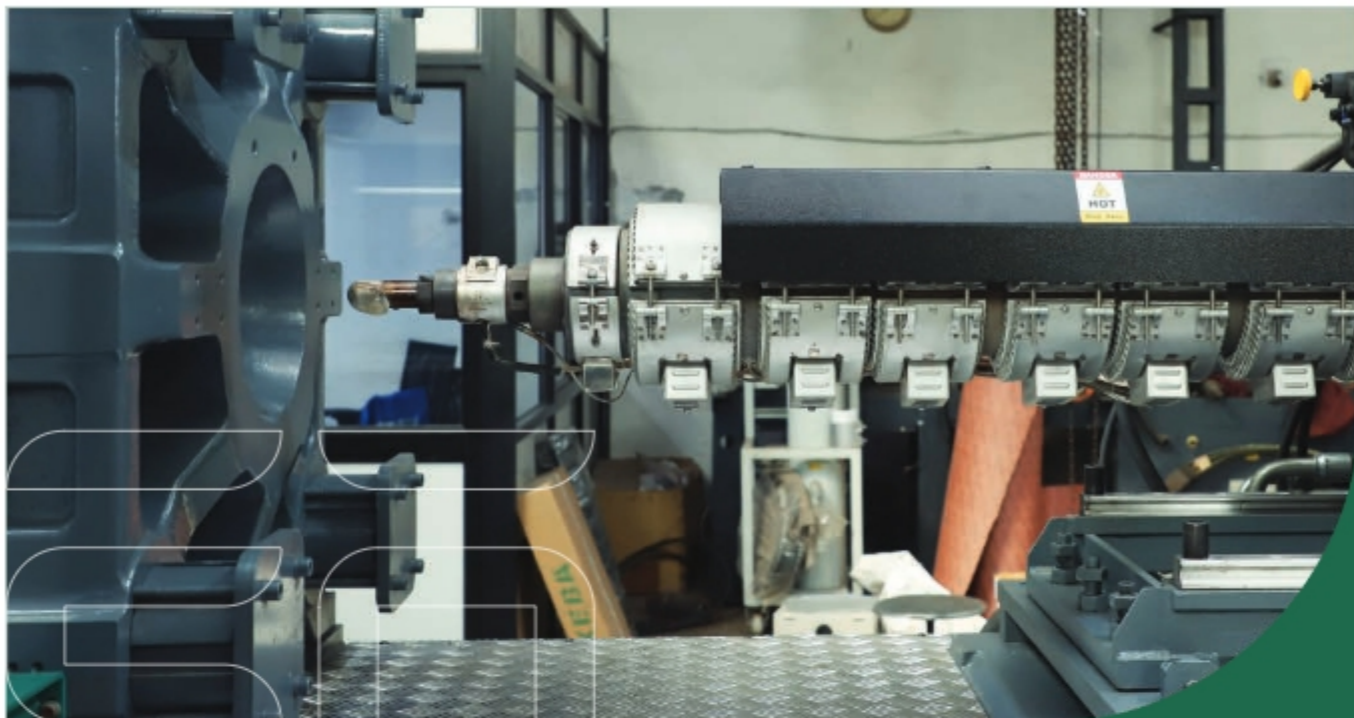
ENGINEERING WITH PRECISION



**ESEMPLAST**  
**AVINYA**

**Avinga Machinery International Pvt. Ltd.**  
77/10, G.I.D.C. Estate, Phase-1, Vatva, Ahmedabad,  
Gujarat, INDIA - 382445.  
E: [sales@esemplastavinya.com](mailto:sales@esemplastavinya.com)  
M: +91 6354 912 910





## ABOUT US

With a strong foundation of technical expertise and Integrity, we at Esemplast Avinya were incorporated in 1993 with an aim to provide value-adding marvels that can help our esteemed clientele in optimizing production processes. We understand the critical role that advanced machinery plays in modern production and thus we strive to deliver the same. Our team of skilled engineers and technicians work tirelessly to design and manufacture cutting-edge Injection Moulding Machines that meet the highest industry standards. Our machines are built to optimize productivity and reduce downtime. We offer a comprehensive range of models, tailored to meet the diverse needs and requirements of various industries.

## MORE STABLE & IMPROVED APPLICABILITY

- Improvement of clamping technology: Rigidity of clamping mechanism is increased to apply clamping force uniformly. Boost the central force to increase longevity and dependability.
- Plasticizing and Structure of Injection Units Components: Product defect is decreased by a new liner guide design.
- Control system: New series controller with smoother page switching implemented.
- Offers more specifications, more speed, faster response, and more precise stage control.
- Wider range of product and raw material applications.

## MORE ENERGY -SAVING

- Optimised adaptable design of oil valves and control lines reduces pressure loss in the new hydraulic circuit design.
- Optimised injection unit's structure with high pressure liner guiding rails for carriage and injection to reduce resistance and increase energy efficiency. To lessen friction resistance, low friction oil seals are used.
- Upgraded servo system for increased energy efficiency: Use a larger pump in a newer generation of servo systems for faster rotational speeds and less energy usage.

## WHY US?

ESEMPLAST AVINYA serves plastic industries since the last 30 years. Our values are driven by satisfied customers and growth is recorded by happy smiles.

### • MECHANICAL COMPONENTS

All mechanical components like castings, machine parts and mainframe that go into our IMM and IBM are manufactured in fully integrated facilities.

### • STRIVE FOR EXCELLENCE

Continuous improvement with customer communication for optimized growth.

### • TIE ROD & GUIDE BAR

Generous designed high strength alloy steel with thick hard chrome plated tie bars with collocated bronze bushes provide smooth motion, excellent life and stable operations.

### • PROFESSIONAL SERVICES

Prompt and efficient service support.

### • OILLESS BUSHES

Self Lubrication graphite non ferrous bushes assure the lower coefficient of the friction and reduces the worn out in the toggle mechanism even after long years of service.

### • STRONG FLEXIBILITY

Modular machine design with variable machine configurations.

## AMARA T - Machine Specifications



### 1 Toggle Mechanism

- Robust and rugged toggle mechanism for positive and uniform force distribution
- Graphite impregnates bushes
- Increased Toggle Lifespan

### 2 Multi-Stage Ejection

- Smooth & Fast Ejection
- Easy Access to Ejector Area
- Pulsating Ejector

### 3 Generous Mould Space

- Accommodates Large Moulds
- T-Slot on Platens
- Easy to Install Moulds

### 4 Advanced User-Friendly Controller

- Ergonomic Layout
- High Speed Microprocessor
- Direct Access Keypad
- Graphical Presentation of Machine Features
- USB Interface

### 5 Twin Cylinder Injection Unit

- Uniform load distribution across screw centreline

### 6 Servo Motor & Drive

- Optimum Energy Savings
- Faster Response Towards Hydraulic System
- Excellent Shot Weight Consistency
- Reduced Noise levels

### 7 Guide Rod Ways

- LM guide Base in the new design increases injection accuracy and enhances plasticizing efficiency
- Hard chromed plated guide rod with Self Lubrication system reduce motion friction

### 8 Temperature Zone

- Accurate Temperature Control
- Insulated Heater for Energy Savings

### 9 Wide Skates for Platen Supports

- Reduced Platen Deflection
- Enhanced Life of Tie-Bars
- High Mould Carrying Capacity

### 10 Automatic PLC Controlled Lubrication System

- The clamping unit is optimized for precise lubrication of all moving parts.

# TECHNICAL SPECIFICATIONS

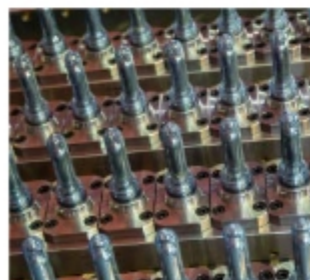
AMARA SERIES		15			30			50			75			100			125			150											
INJECTION UNIT	UNIT	20			160			160			300			300(Std)			420			300			420(Std)			420			580(Std)		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
Screw Diameter	mm	20	18	25	30	25	30	35	30	35	40	30	35	40	35	40	45	30	35	40	35	40	45	35	40	45	40	45	50		
Theoretical Displacement	cc	31	30	58	84	58	84	115	113	153	200	113	153	200	178	232	294	113	153	200	178	232	294	178	232	294	257	325	402		
Injection Capacity Max. (GPPS)	gms	30	29	55	80	55	80	109	107	146	190	107	146	190	169	220	279	107	146	190	169	220	279	169	220	279	244	309	382		
Injection Rate (GPPS)	cc/sec	18	22	43	61	43	61	84	64	88	114	80	110	143	90	118	150	80	110	143	113	148	187	113	148	187	119	150	186		
Injection Pressure Max.	bar	625	2500	2112	1466	2112	1466	1077	2640	1939	1485	2640	1939	1485	2351	1800	1422	2640	1939	1485	2351	1800	1422	2351	1800	1422	2240	1769	1433		
Injection Screw Stroke	mm	100	120	120	120	120	120	120	160	160	160	160	160	160	185	185	185	160	160	160	185	185	185	185	185	185	205	205	205		
Plasticizing Rate (GPPS)	gm/sec	3	4	7	11	7	11	15	10	13	17	11	15	18	11	15	19	11	15	18	12	16	20	12	16	20	14	18	22		
Screw Speed	rpm	130	280			280			365			400			320			400			330			330			250				
Total Heat Capacity	kw	4	4.8			5.2			7.9			7.9			10			7.9			10			10			12.5				
<b>CLAMP UNIT</b>																															
Clamp Force	ton	15	30			50			75			100			125			150													
Clamp Stroke	mm	110	230			250			280			320			380			430													
Max. Daylight	mm	260	480			550			630			720			830			950													
Min. Mould Height	mm	100	150			180			180			180			150			180													
Max. Mould Height	mm	150	250			300			350			400			450			520													
Platen Size (H x V)	mm	300 x 300		390 x 390			460 x 430			530 x 470			610 x 530			670 x 670			700 x 700												
Distance Btw. Tie Rod (H x V)	mm	170 x 170		260 x 260			310 x 250			360 x 270			410 x 300			430 x 430			470 x 470												
Ejector Stroke	mm	-	50			70			75			100			130			140													
Ejector Force	ton	-	1.7			2.8			3.7			4.4			3.7			3.5													
<b>GENERAL</b>																															
Servo Motor	kw	2.2	3.7			5.6			12			18			18			18			18			18			18				
Total Connected Load	kw	6.2	8.5			10.8			19.9			25.9			28			25.9			28			28			30.5				
Machine Dimension (L x W x H)	m	2.0 x 0.5 x 1.0		2.5 x 0.9 x 1.2			2.9 x 1.0 x 1.5			3.8 x 1.2 x 1.7			4.0 x 1.2 x 1.7			4.0 x 1.2 x 1.7			4.5 x 1.5 x 1.8			4.5 x 1.5 x 1.8			5.3 x 1.55 x 2.0			5.3 x 1.55 x 2.0			
Oil Tank Capacity	ltr	50	140			140			200			200			200			285			285			285			285				
Machine Weight	ton	1	1.8			2.2			3			4			4.2			4.3			4.5			5.5			5.65				

AMARA SERIES		160			220			275			350																	
INJECTION UNIT	UNIT	580			800(Std)			800			980(Std)			980			1530(Std)			1530			2100(Std)					
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
Screw Diameter	mm	40	45	50	45	50	55	45	50	55	50	55	60	50	55	60	55	60	65	55	60	65	60	70	80			
Theoretical Displacement	cc	257	325	402	381	471	569	381	471	569	490	593	706	490	593	706	731	870	1021	731	870	1021	989	1346	1758			
Injection Capacity Max. (GPPS)	gms	244	309	382	362	447	541	362	447	541	466	563	671	466	563	671	694	826	970	694	826	970	939	1278	1670			
Injection Rate (GPPS)	cc/sec	150	189	234	162	200	242	192	238	288	199	241	287	199	241	287	229	272	320	229	272	320	250	340	444			
Injection Pressure Max.	bar	2240	1769	1433	2074	1680	1388	2074	1680	1388	2000	1653	1389	2000	1653	1389	2094	1760	1499	2094	1760	1499	2133	1567	1200			
Injection Screw Stroke	mm	205	205	205	240	240	240	240	240	240	250	250	250	250	250	250	308	308	308	308	308	308	350	350	350			
Plasticizing Rate (GPPS)	gm/sec	16	20	24	18	24	30	24	32	40	32	40	48	32	40	48	35	45	55	35	45	55	38	48	58			
Screw Speed	rpm	300			200			250			250			250			200			200			180					
Total Heat Capacity	kw	12.5			15			15			16.4			16.4			24.8			24.8			35.1					
<b>CLAMP UNIT</b>																												
Clamp Force	ton	160			220			275			350																	
Clamp Stroke	mm	460			550			650			740																	
Max. Daylight	mm	1010			1250			1400			1540																	
Min. Mould Height	mm	200			200			250			300																	
Max. Mould Height	mm	550			700			750			800																	
Platen Size (H x V)	mm	750 x 750			820 x 820			955 x 955			1030 x 1030																	
Distance Btw. Tie Rod (H x V)	mm	520 x 520			570 x 570			660 x 660			720 x 720																	
Ejector Stroke	mm	160			160			180			200																	
Ejector Force	ton	4.8			6			6.5			9.2																	
<b>GENERAL</b>																												
Servo Motor	kw	23			28			28			41			41			42											
Total Connected Load	kw	35.5			43			44.4			44.4			65.8			65.8			77.1								
Machine Dimension (L x W x H)	m	5.7 x 1.6 x 2.2			5.7 x 1.6 x 2.2			6.5 x 1.8 x 2.5			6.5 x 1.8 x 2.5			7.5 x 2.0 x 2.6			7.5 x 2.0 x 2.6			8.0 x 2.2 x 2.8			8.0 x 2.2 x 2.8					
Oil Tank Capacity	ltr	400			400			400			400			500			500			500			500					
Machine Weight	ton	6.4			6.7			8.5			8.75			11.7			12			15			15.5					

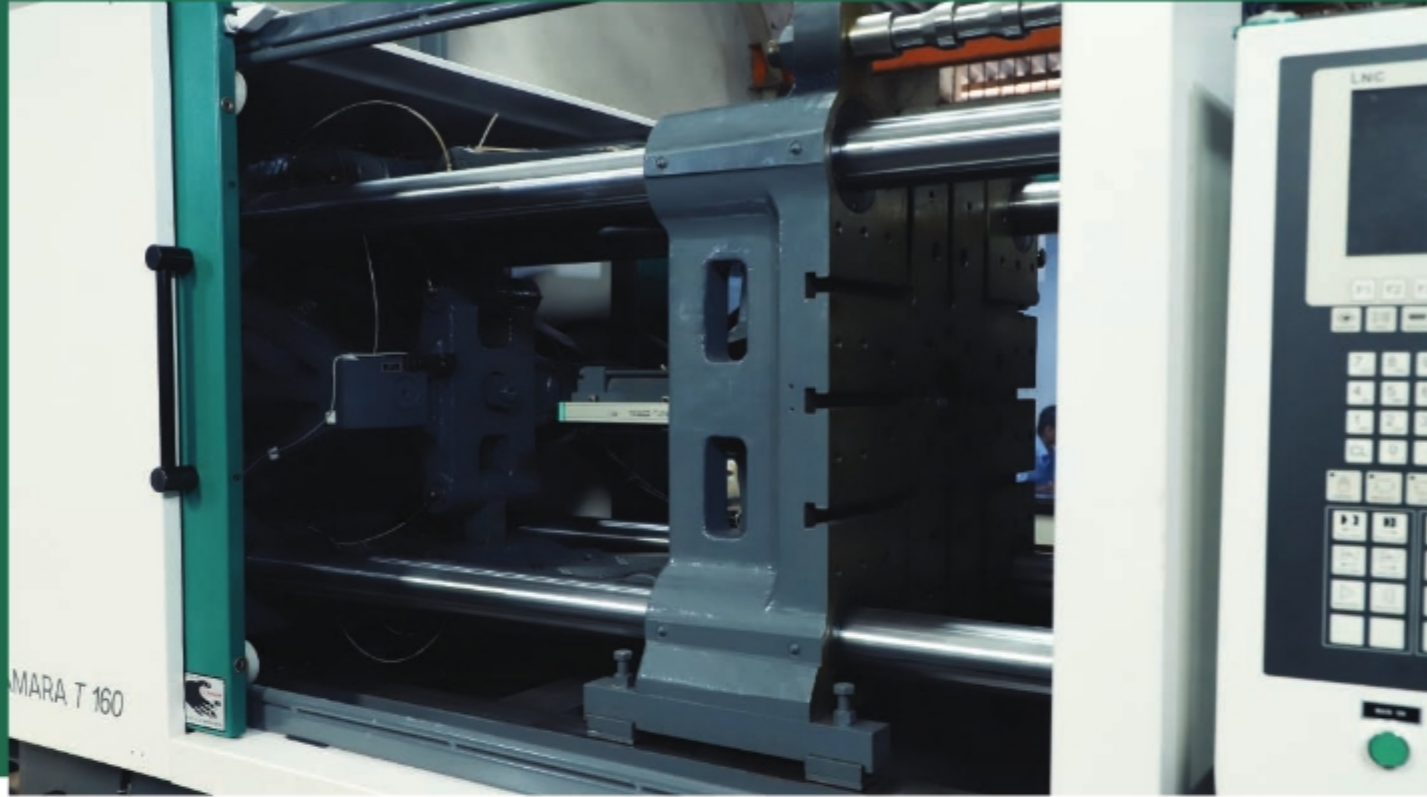
\*\*Specifications are subject to change without prior notice

## TECHNICAL SPECIFICATIONS

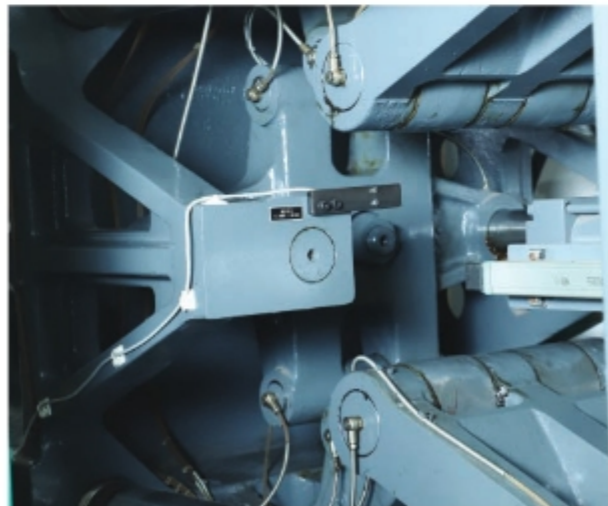
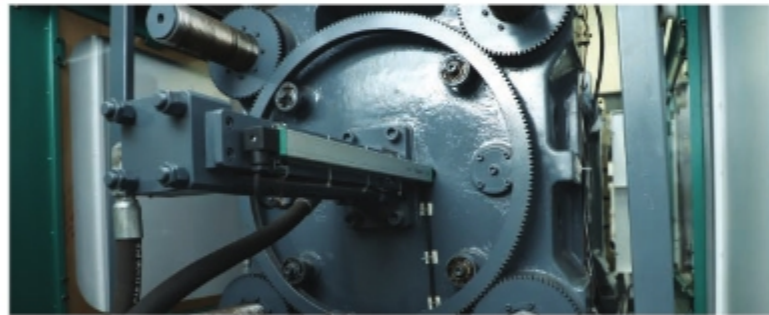
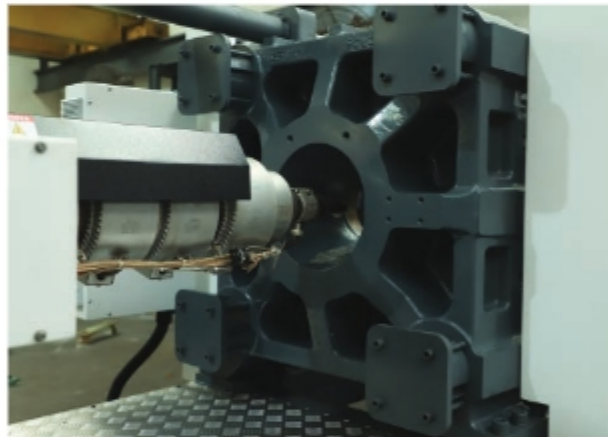
AMARA PET SERIES		100	130	160-R	160-S	220
INJECTION UNIT	UNIT	300	580	580	800	1530
Screw Diameter	mm	45	50	50	60	70
Theoretical Displacement	cc	254	402	402	678	1184
Injection Capacity Max. (PET)	gms	300	474	474	800	1397
Injection Rate (VDP)	cc/sec	234	241	241	336	381
Injection Rate (Servo)	cc/sec	227	234	234	342	371
Injection Pressure Max.	bar	1173	1433	1433	1166	1293
Injection Screw Stroke	mm	160	205	205	240	308
Plasticizing Rate	gm/sec	40	50	50	80	90
Screw Speed	rpm	200	190	190	185	180
Total Heat Capacity	kw	11.8	12.8	12.8	18.7	24.8
CLAMP UNIT						
Clamp Force	Ton	100	130	160	160	220
Clamp Stroke	mm	320	350	400	460	550
Maximum Daylight	mm	720	800	930	1010	1250
Minimum Mould Height	mm	180	180	200	200	200
Maximum Mould Height	mm	400	450	530	550	700
Platen Size (H x V)	mm	610 x 530	640 x 640	740 x 650	750 x 750	820 x 820
Distance Between Tie Rod (H x V)	mm	410 x 300	430 x 410	510 x 410	520 x 520	570 x 570
Ejector Stroke	mm	100	100	150	160	160
Ejector Force	Ton	4.4	4.5	5.2	7	9
GENERAL						
Electric Motor	kw	15	22	22	30	37
Servo Motor	kw	18	23	23	28	41
Total Connected Load (VDP)	kw	26.8	34.8	34.8	48.7	61.8
Total Connected Load (Servo)	kw	29.8	35.8	35.8	46.7	65.8
Machine Dimension (L x W x H)	m	4.0 x 1.2 x 1.7	4.2 x 1.2 x 1.7	5.3 x 1.6 x 2.0	6.15 x 1.6 x 2.2	6.5 x 1.9 x 2.5
Oil Tank Capacity	ltr	285	285	285	400	400
Machine Weight	Ton	4	4.6	6	6.5	9.5



PRODUCT SHOWCASE



SUITABLE FOR PRECISION PRODUCTS



## Dyota Series Two Platen Machine

PARAMETERS	UNIT	350 Two Platen		
INJECTION UNIT		A	B	C
Screw Diameter	Mm	60	70	80
L/D Ratio	-	23.3	20	17.5
Injection Pressure	bar	2460	1810	1385
Stroke Volume	cc	990	1347	1759
Screw Stroke	Mm	350	350	350
Max. Injected Weight (GPPS)	Gms	940	1280	1671
Injection Rate (GPPS)	cm <sup>3</sup> /sec	237	323	422
Injection Speed	Mm/sec	84	84	84
Screw Speed – Max	Rpm	162	162	162
Heating Capacity			35.1	
Nozzle Protrusion	Mm		30	
Nozzle Contact Force	Kn		60	
CLAMP UNIT				
Clamping Force	Ton		350	
Mould Opening Stroke	Mm		650/1100	
Maximum Daylight	Mm		1400	
Mould Height (Min.-Max.)	Mm		300 - 750	
Distance Between Tie-Bars	Mm		760 X 760	
Platen Size	Mm		1140 X 1140	
Ejector Force	Ton		11	
Ejector Stroke	Mm		200	
GENERAL DATA				
Electrical Motor	Kw		41.9	
Overall Dimensions (LXWXH)	M		7.5 X 2.1 X 2.57	
Total Connected Load	Kw		74.1	
Oil Tank Capacity	litr.		650	
Machine Weight	Ton		12	

### CLAMP

- Rigid Two-Platen Clamping Unit
- Large Short Stroking Ram for Uniform Distribution of Clamping Force & Quick Tonnage build-up
- Adjustable Pressure Setting of Closing & Opening Stage
- Proportional Speed Control with 5 Closing & 5 Opening Speed
- Adjustable 1 Stage Mould Safety Speed & Pressure
- Linear position Transducer for Accurate Clamp Position Control
- Sensitive Mould Protection
- Stage Wise Actual Time Display
- Actual tonnage Display on Screen
- Gate Safety-Close loop
- Auto Mould Height Adjustment
- T-Slot Platen
- Clamp On LM Guide / Slide plate ensures least friction
- Hydraulic Core Pulls-2Nos.

### TEMPERATURE CONTROL

- Accurate PID Temperature Control Settable on Screen
- Auto Heat Startup & Shutdown
- Soak Timer for Cold Start Protection
- High / Low-Temperature Alarm
- Set & Actual Temperature Data with Bar Graph

### HYDRAULICS

- Servo Motor & Pump
- Ergonomic Hydraulic Layout for Easy Approach

- Valves Placed near Actuators for Rapid Response
- Continuous Oil Filtration

### INJECTION

- 7 Stage Injection Velocity
- 3 Stage Screw Speed & Back Pressure Control (Setting) through Screen
- Linear Position Transducer for Accurate Injection Position Control
- Digital Readout of Actual RPM
- Injection Decompression Before /After Refilling or Both
- Injection Unit on Linear Bearing Guide Ways for Minimal Frictional Losses
- Semi-Auto Purge, Cold Slug Removal & Intrusion Moulding Programs
- Aluminium Chequered Plate below Purge Area
- Nozzle Contact Force by Pressure Switch/ Proximity Sensor

### ADDITIONAL FEATURES

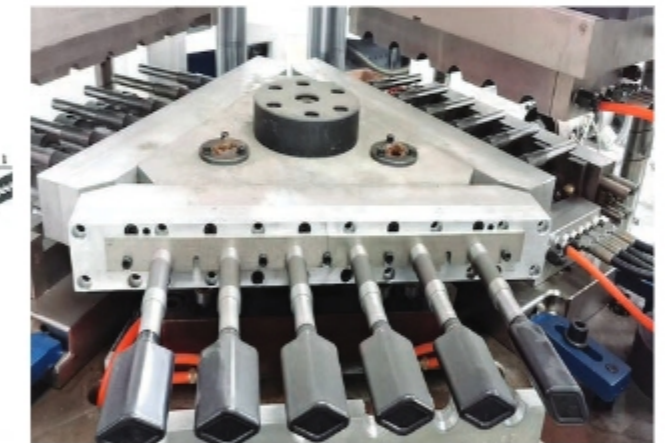
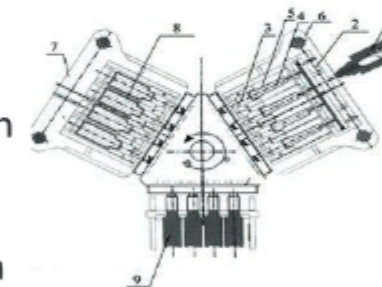
- Feed Throat Temperature Control
- Part Drop Detect For Single Cavity
- Water Battery With Temperature Indicator
- Robot Interface (Spi/Euromap)
- Extra Heating Zones
- Bimetallic Barrel & Hardened/Coated Screw

## Ekaiva Series Injection Blow Molding Machine



### Esemplast Avingya

1. Stock Preparation/Injection Device
2. Hot-flow Channel
3. Entire Bar
4. Bottle Blank
5. Injection Mold
6. Injection Station
7. Blow Station
8. Blow Molding
9. Stripper Station



### Suitable For Precision Products



## STANDARD AND OPTIONAL FEATURES

Standard Optional

### INJECTION UNIT

• Injection unit support with liner guides 125T and above	●	
• Injection unit on guide rod ways below 100T	●	
• Parallel double cylinder injection system	●	
• Nitride alloy steel screw and barrel	●	
• Multi Stage PID barrel temperature control	●	
• Precision transducer for injection / plasticizing stroke control	●	
• Cold start protection	●	
• Automatic purging	●	
• Selectable suck back before or after plasticizing	●	
• 5 stage injection control (speed, pressure, position)	●	
• 5 stage holding pressure control (speed, pressure, position)	●	
• 3 stage storage control (speed, pressure, position)	●	
• Digital Readout of Actual RPM	●	
• Semi-Auto Purge & Intrusion Moulding Programs	●	
• Stainless Steel Hopper	●	
• Sliding Hopper	●	
• Extended nozzle		○
• Dedicated barrel Unit		○
• Bi metallic Screw Barrel		○
• One Size Larger or Smaller Injection Unit		○

### CLAMPING UNIT

• Unique 5 point twin toggle clamp mechanism	●	
• Graphite Impregnated Oil-less Bushes	●	
• Clamp Tonnage with Pressure setting on screen	●	
• Adjustable Pressure setting of Closing / Opening Stage	●	
• Precision transducer for Clamping / ejector stroke control	●	
• 2 stage ejector forward / backward control	●	
• Hydraulic mould height adjustment device	●	
• Automatic centralized grease lubrication system	●	
• Multi ejector function setting	●	
• Low pressure mould protection	●	
• Stage wise actual time Display	●	
• Platen with T-slots and screw holes	●	
• Hydraulic / electrical safety device		○
• EUROMAP-based robot mounting holes		○
• Special mould mounting holed		○
• Increase ejector force and stroke		○
• Increase mould thickness		○
• Magnetic Platen		○
• Proportional Speed Control with Closing / Opening Speed		○

## STANDARD AND OPTIONAL FEATURES

### HYDRAULIC SYSTEM

• Fourth generation servo motor system	●	
• Low noise energy efficient hydraulic circuit	●	
• High Performance hydraulic valves	●	
• External Cooler	●	
• Automatic calibration of pressure and flow	●	
• Plasticizing back pressure adjustment device	●	
• Low Friction Seal	●	
• Automatic oil temperature detection and alarm	●	
• Low oil level audible alarm and motor shutdown	●	
• Variable Displacement Pump system		○
• Enlarge oil pump and motor		○
• Synchronized ejection, core pulling and plasticizing system		○
• Proportional valve for mould opening and closing		○

### CONTROL SYSTEM

• 8" TFT Colour Display with Alpha Numeric Keypad	●	
• 120 mould Data Storage	●	
• Configurable multi-level password with operator name.	●	
• Customized setup Menu	●	
• High / Low limit Display for each Adjustable parameter	●	
• I/O Diagnosis Analog & Digital	●	
• Mould Data/process Data/Change Log Saving	●	
• External USB Device		
• Key Lock for Parameter	●	
• Time / Position / time + position-controlled switchover from injection holding	●	
• Separate adjustment of motion slope	●	
• Automatic clamping force adjustment	●	
• Multiple Operating Language	●	
• Emergency Stop Button for front Side gate	●	
• Hot runner interface		○
• Pneumatic sequence valve		○
• Air Blowing with Valve		○
• Display of overall energy consumption		○

### OTHER

• Levelling Pad	●	
• A Standard Tool Kit	●	
• Water manifold 5 in / out	●	
• Auxiliary		○