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ESEMPLAST™ AVINYA

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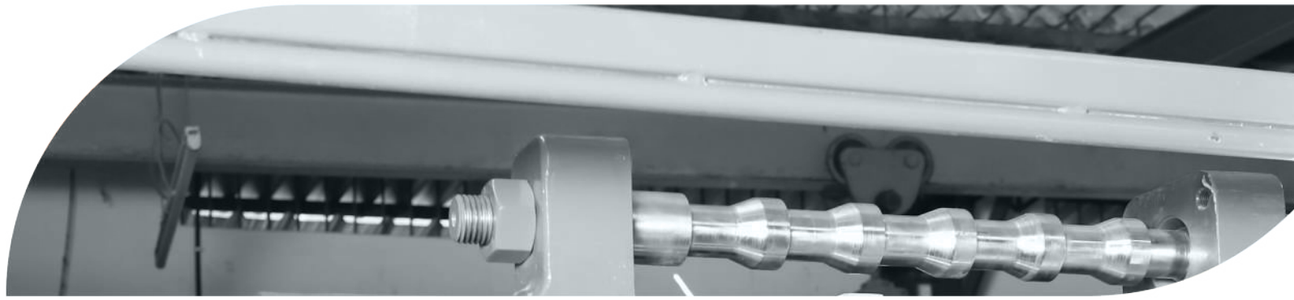
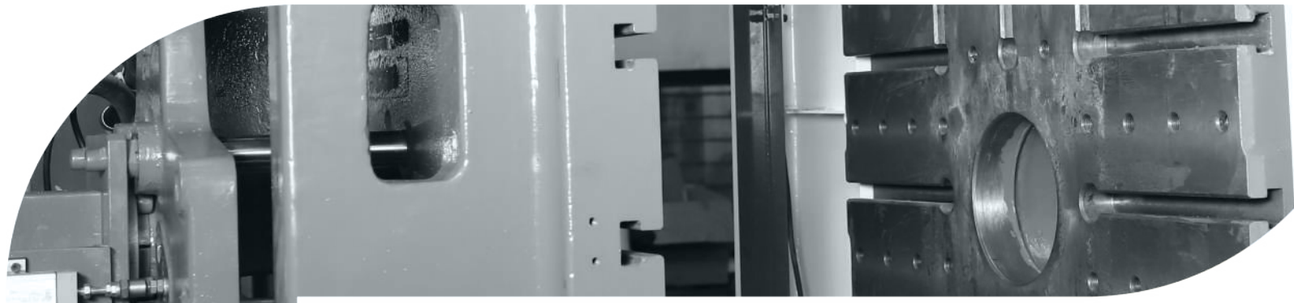
ESEMPLAST™ AVINYA

TOGGLE & TWO PLATEN INJECTION MOULDING MACHINE
INJECTION BLOW MOULDING MACHINE (IBM)

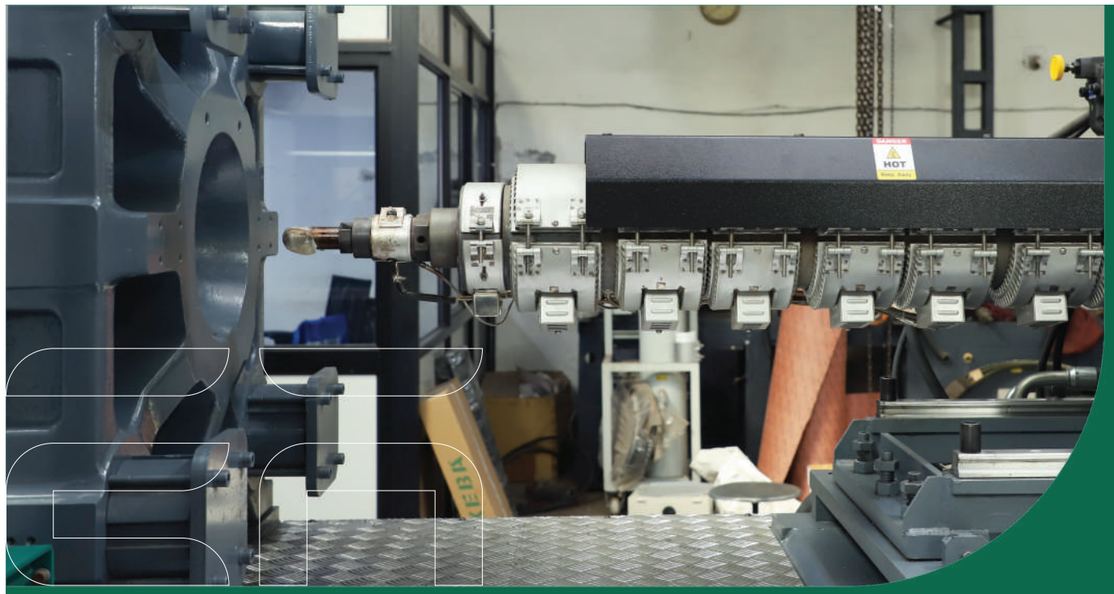


ENGINEERING WITH PRECISION



JAPANESE INSPIRED INNOVATIVE STANDARD
IN TOGGLE TECHNOLOGY

AMARA, DYOTA & EKAIVA SERIES



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.

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.

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 SERIES - 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 frictiony

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

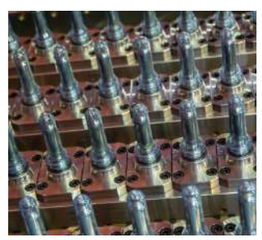
AMARA SERIES		15	30			50			80			110						125						150					
INJECTION UNIT	UNIT	20	120			120			370			370(Std)			460			370			460(Std)			460			630(Std)		
		A	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw Diameter	mm	20	22	25	30	22	25	30	30	35	40	30	35	40	35	40	45	30	35	40	35	40	45	35	40	45	40	45	50
Theoretical Displacement	cc	31	45	59	85	45	59	85	120	163	213	120	163	213	178	232	294	120	163	213	178	232	294	178	232	294	257	326	402
Injection Capacity Max. (GPPS)	gms	30	43	56	80	43	56	80	114	155	203	114	155	203	169	220	279	114	155	203	169	220	279	169	220	279	244	310	382
Injection Rate (GPPS)	cc/sec	42	33	42	61	33	42	61	60	82	107	60	82	107	91	118	150	60	82	107	91	118	150	91	118	150	119	150	186
Injection Pressure Max.	bar	625	2600	2112	1466	2600	2112	1466	2303	2278	1744	2303	2278	1744	2571	1969	1555	2303	2278	1744	2571	1969	1555	2571	1969	1555	2450	1936	1568
Injection Screw Stroke	mm	100	120	120	120	120	120	120	170	170	170	170	170	170	185	185	185	170	170	170	185	185	185	185	185	185	205	205	205
Plasticizing Rate (GPPS)	gm/sec	3	6	9	12	6	9	12	10	14	18	10	14	18	14	18	22	10	14	18	14	18	22	14	18	22	19	24	28
Screw Speed	rpm	130	280			280			250			250			266			250			266			266			250		
Total Heat Capacity	kw	3.5	5.25			5.25			8.1			8.1			10			8.1			10			10			14.25		
CLAMP UNIT																													
Clamp Force	ton	15	30			50			80			110						125						150					
Clamp Stroke	mm	110	230			250			280			320						380						450					
Max. Daylight	mm	260	480			550			630			720						830						970					
Min.-Max. Mould Height	mm	100 - 150	150 - 250			180 - 300			180 - 350			180 - 400						150 - 450						180 - 520					
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					
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					
Ejector Stroke	mm	-	50			70			75			100						130						140					
Ejector Force	ton	-	1.8			2.8			4			4						4						5.3					
GENERAL																													
Pump Motor Power	kw	2.2	3.7			3.7			12			12			12			12			12			12			18		
Total Connected Load	kw	5.7	8.95			8.95			20.1			20.1			22			20.1			22			22			32.25		
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			5.4 x 1.51 x 2.3			5.4 x 1.51 x 2.3		
Oil Tank Capacity	ltr	40	100			100			160			200			200			200			200			250			250		
Machine Weight	ton	1	1.8			2.2			3			4			4.2			4.3			4.5			5.5			5.65		

AMARA SERIES		180						220						250						300						360					
INJECTION UNIT	UNIT	630			860(Std)			860(Std)			1150			860			1150(Std)			1150			1630(Std)			1630			2500(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	A	B	C
Screw Diameter	mm	40	45	50	45	50	55	45	50	55	50	55	60	45	50	55	50	55	60	50	55	60	55	60	65	55	60	65	60	70	80
Theoretical Displacement	cc	257	326	402	381	471	570	381	471	570	500	605	720	381	471	570	500	605	720	500	605	720	712	848	995	712	848	995	989	1346	1758
Injection Capacity Max. (GPPS)	gms	244	310	382	362	447	541	362	447	541	475	575	684	362	447	541	475	575	684	475	575	684	677	805	945	677	805	945	939	1279	1670
Injection Rate (GPPS)	cc/sec	119	150	186	161	198	240	161	198	240	198	240	286	161	198	240	198	240	286	198	240	286	244	291	341	244	291	341	250	340	444
Injection Pressure Max.	bar	2450	1936	1568	2268	1837	1518	2268	1837	1518	2305	1905	1600	2268	1837	1518	2305	1905	1600	2305	1905	1600	2291	1925	1640	2291	1925	1640	2533	1861	1425
Injection Screw Stroke	mm	205	205	205	240	240	240	240	240	240	255	255	255	240	240	240	255	255	255	255	255	255	300	300	300	300	300	300	350	350	350
Plasticizing Rate (GPPS)	gm/sec	19	24	28	25	31	37	25	31	37	32	40	48	25	31	37	32	40	48	32	40	48	36	44	52	36	44	52	40	48	56
Screw Speed	rpm	250			208			208			225			208			225			225			213			213			180		
Total Heat Capacity	kw	14.25			18.85			18.85			20.9			18.85			20.9			20.9			24.8			24.8			35.6		
CLAMP UNIT																															
Clamp Force	ton	180						220						250						300						360					
Clamp Stroke	mm	460						500						550						600						650					
Max. Daylight	mm	1010						1000						1150						1260						1320					
Min.-Max. Mould Height	mm	200 - 550						200 - 550						200 - 600						300 - 660						320 - 670					
Distance Btw. Tie Rod (H x V)	mm	520 x 520						560 x 560						570 x 570						660 x 660						710 x 710					
Platen Size (H x V)	mm	750 x 750						820 x 820						820 x 820						960 x 960						1020 x 1020					
Ejector Stroke	mm	160						160						160						160						160					
Ejector Force	ton	5.3						6						6.6						6.6						9					
GENERAL																															
Pump Motor Power	kw	18			23			23			28			23			28			28			41			41			42		
Total Connected Load	kw	32.25			41.85			41.85			48.9			41.85			48.9			48.9			65.8			65.8			77.6		
Machine Dimension (L x W x H)	m	5.7 x 1.6 x 2.4			5.7 x 1.6 x 2.4			6.5 x 1.8 x 2.5			6.5 x 1.8 x 2.5			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	300			300			375			375			375			375			450			450			500			500		
Machine Weight	ton	6.4			6.7			8.5			9			8.5			9			11.7			12			15			15.5		

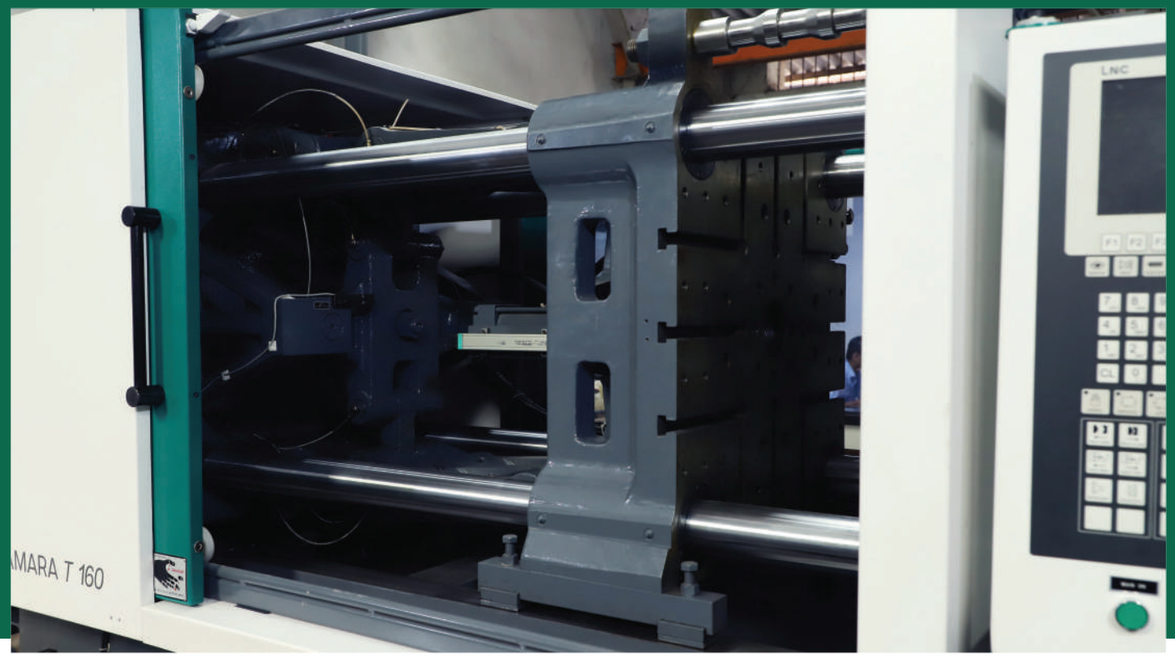
**Specifications are subject to change without prior notice

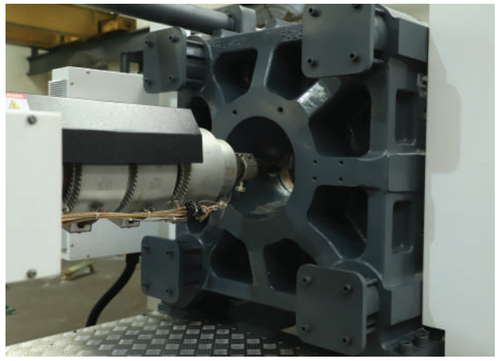
TECHNICAL SPECIFICATIONS

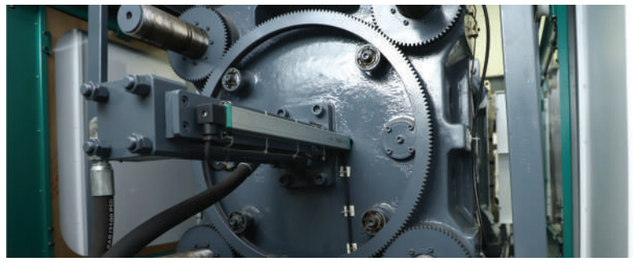
AMARA PET SERIES		125	150	180		220		300	
INJECTION UNIT	**UNIT**	**460**	**630**	**630**	**860**	**860**	**1630**	**860**	**1630**
Screw Diameter	mm	50	55	55	60	60	70	60	70
Theoretical Displacement	cc	363	486	486	678	678	1154	678	1154
Injection Capacity Max. (PET)	gms	428	574	574	800	800	1362	800	1362
Injection Rate	cc/sec	231	281	281	365	365	396	365	396
Injection Pressure Max.	bar	1260	1296	1296	1294	1294	1414	1294	1414
Injection Screw Stroke	mm	185	205	205	240	240	300	240	300
Plasticizing Capacity	gm/sec	45	50	50	80	80	80	80	80
Screw Speed	rpm	200	210	210	187	187	150	187	150
Total Heat Capacity	kw	11.8	15.8	15.8	18.85	18.85	28	18.85	28
CLAMP UNIT									
Clamp Force	Ton	125	150	180		220		300	
Clamp Stroke	mm	380	450	460		550		600	
Maximum Daylight	mm	830	970	1010		1150		1260	
Min. - Max. Mould Height	mm	150 - 450	180 - 520	200 - 550		200 - 600		300 - 660	
Distance Between Tie Rod (H x V)	mm	430 x 430	470 x 470	520 x 520		570 x 570		660 x 660	
Platen Size (H x V)	mm	670 x 670	700 x 700	750 x 750		820 x 820		960 x 960	
Ejector Stroke	mm	130	140	160		160		160	
Ejector Force	Ton	4	5.3	7		11		11	
GENERAL									
Electric Motor	kw	15	22	22	30	30	37	30	37
Servo Motor	kw	18	23	23	34	34	41	34	41
Total Connected Load (VDP)	kw	26.8	37.8	37.8	48.85	48.85	65	48.85	65
Total Connected Load (Servo)	kw	29.8	38.8	38.8	52.85	52.85	69	52.85	69
Machine Dimension (L x W x H)	m	4.7 x 1.5 x 1.8	5.5 x 1.6 x 2.0	6.15 x 1.6 x 2.2	6.15 x 1.6 x 2.2	6.5 x 1.9 x 2.5	6.5 x 1.9 x 2.5	7.5 x 2.0 x 2.7	7.5 x 2.0 x 2.7
Oil Tank Capacity	ltr	250	300	375	375	450	450	450	450
Machine Weight	Ton	4.6	6	6.4	6.75	9.5	10	12	13



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)	cm3/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	ltr.		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

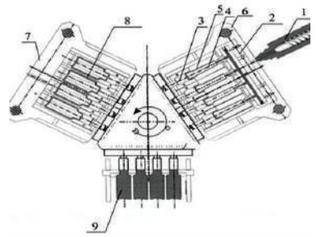
ADDITIONAL FEATURES

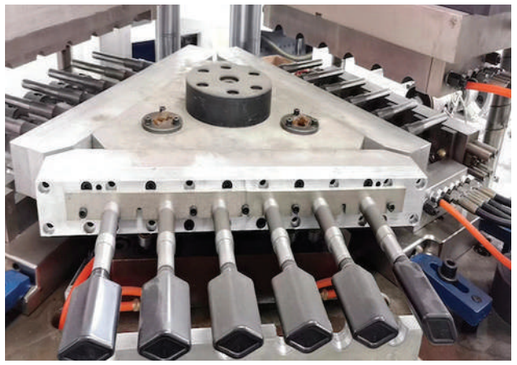
- Feed Throat Temperature Control
- Part Drop Detect For Single Cavity
- Water Battery With Temperature Indicator
- Robot Interface (Spi/Euromap)
- Extra Heating Zones
- Bimetallic Barrel & Hardened/Coated Screw

Ekaiva Series Injection Blow Molding Machine

Esemplast Avinya

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 alaram 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		○