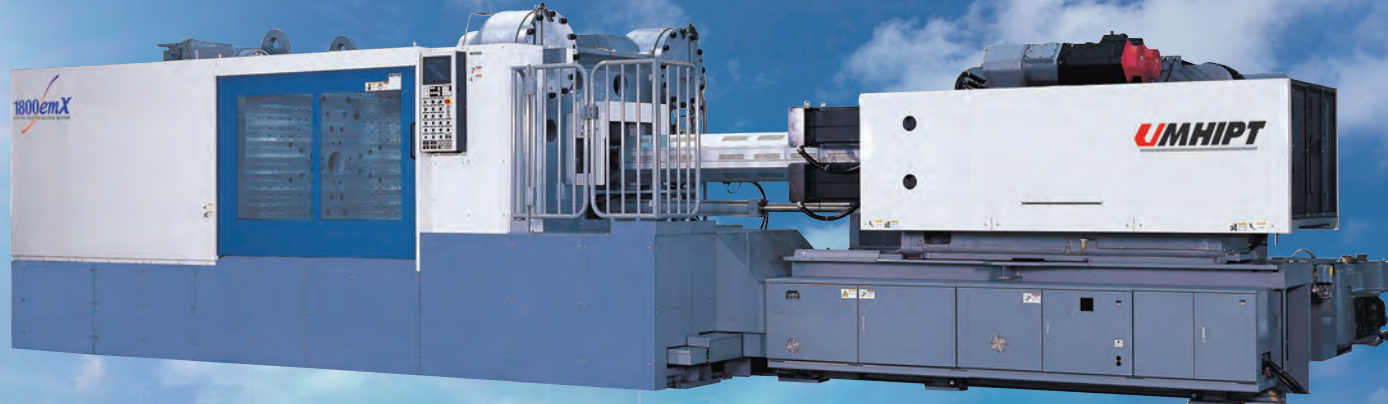


Meeting the Needs of a New Generation and Shaping the Future



1800emX

Systems pictured in this brochure include optional equipment.

emX Series Specifications

Item	Unit	1200emX		1450emX		1800emX		2200emX		2800emX		3300emX		3900emX		
		100	160	160	240	160	240	240	340	340	470	340	470	470	590	
Screw diameter	in	3.5	4.1	4.1	4.7	4.1	4.7	4.7	5.3	5.3	5.3	5.9	5.9	5.9	5.9	
Theoretical injection volume	cu.in	174.5	277.0	277.0	413.7	277.0	413.7	413.7	589.6	589.6	589.6	805.5	805.5	805.5	805.5	
Injection shot mass	Polystyrene (PS)	93	147	147	220	147	220	220	314	314	314	427	427	427	427	
	Polyethylene (PE)	75	119	119	177	119	177	177	252	252	252	345	345	345	345	
Max. injection pressure	psi (MPa)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	25600 (177)	
	psi (MPa)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	21330 (147)	
Injection rate	cu.in/sec	61.9	84.5	84.5	86.3	84.5	86.3	86.3	109.2	109.2	109.2	123.9	123.9	123.9	123.9	
	lb/hr	1036	1391	1391	1731	1391	1731	1731	2227	2227	2227	—	—	—	—	
Plasticizing capacity	Polystyrene (PS)	—	—	—	1049	—	1049	1049	1345	1345	1345	2204	2204	2204	2204	
	Polypropylene (PP)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Screw speed	rpm	160	152	152	138	152	138	138	132	132	132	167	167	167	167	
Injection power	HP	242	327	327	335	327	335	335	423	423	423	481	481	481	481	
Injection speed	in/sec	6.3	6.3	6.3	4.9	6.3	4.9	4.9	4.9	4.9	4.9	4.5	4.5	4.5	4.5	
Nozzle touch force	US ton	7	7	7	7	7	7	7	11	11	11	11	11	11	11	
Screw L/D	—	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
Clamp Unit	Max. mold clamping force	US ton	1157	1433	1433	1763	1763	2204	2755	3306	3857	3857	3857	3857	3857	
	Mold opening force	US ton	68	88	88	109	109	174	174	205	205	205	205	205	205	
	Mold opening and closing speed	ft/min	164.1	164.1	164.1	197	197	197	180.5	164.1	164.1	164.1	164.1	164.1	164.1	
	Platen size (HxV)	in	74.8x74.8	78.7x78.7	78.7x78.7	98.4x78.7	98.4x78.7	98.4x88.6	100.4x90.6	126.0x98.4	126.0x98.4	126.0x98.4	126.0x98.4	126.0x98.4	126.0x98.4	126.0x98.4
	Clearance between tie-bar (HxV)	in	51.2x51.2	57.1x55.1	57.1x55.1	72.8x59.8	72.8x59.8	72.8x65.0	78.7x65.0	80.7x74.8	80.7x74.8	80.7x74.8	80.7x74.8	80.7x74.8	80.7x74.8	
	Max. clamp stroke	in	68.9	72.8	72.8	94.5	94.5	94.5	106.3	106.3	106.3	106.3	106.3	106.3	106.3	106.3
	Max. daylight	in	88.6	98.4	98.4	126.0	126.0	126.0	137.8	145.7	145.7	145.7	145.7	145.7	145.7	145.7
	Mold thickness	in	19.7~43.3	25.6~51.2	25.6~51.2	31.5~59.1	31.5~59.1	31.5~59.1	31.5~59.1	31.5~66.9	39.4~74.8	39.4~74.8	39.4~74.8	39.4~74.8	39.4~74.8	39.4~74.8
		Force	US ton	22	33	33	33	33	33	44	44	44	44	44	44	44
		Stroke	in	7.9	9.8	9.8	9.8	9.8	9.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
	Speed	ft/min	41.3	49.2	49.2	49.2	49.2	49.2	49.2	41.0	41.0	41.0	41.0	41.0	41.0	41.0
	Max. mold weight	US ton	15	22	22	28	28	33	33	33	33	33	33	33	33	33
	Heater capacity	kW	33.4	47.2	43.6	49.0	43.6	49.0	49.0	61.6	61.6	61.6	77.4	77.4	77.4	77.4
Overall dimensions (LxWxH)	ft	35.1x10.3x9.5	35.3x10.3x9.5	38.6x11.4x10.5	40.0x11.4x10.5	41.6x12.7x10.7	42.1x12.7x10.7	42.6x13.1x11.2	44.6x14.1x11.2	44.9x14.8x11.8	49.9x15.7x13.1	49.9x15.7x13.1	49.9x15.7x13.1	49.9x15.7x13.1	49.9x15.7x13.1	49.9x15.7x13.1
Machine weight	US ton	56	58	75	79	91	97	116	127	150	202	202	202	202	202	



Standard specifications

[Injection unit]

1. UB screw
2. Anti-abrasive (PAL) screw cylinder
3. Nozzle
4. Screw cylinder cover
5. Screw unit swivel device
6. Auto melt decompress (3 way)
7. Manual melt decompress
8. Sprue break circuit
9. Manual injection circuit
10. Screw back pressure circuit
11. Screw cold start prevention circuit
12. Automatic color change circuit (Jet purge circuit)
13. Cylinder jacket cooling circuit
14. Safety cover on injection unit
15. Auto lubrication system to injection unit
16. Plasticizing mold open/close lap circuit
17. Screw position indicator
18. Purge cover
19. Aluminum plate on injection base

[Clamp unit]

1. Mold setting operation circuit
2. Mold protection circuit with try again
3. Locking device for front and rear door
4. Automatic opening and closing device for front safety door

[Electric unit]

1. MAC-VIII+ control device
2. English-Spanish screen
3. Presetting circuit for next molding condition
4. Material feeding stop signal
5. Automatic heat up circuit
6. Cycle start switch
7. Setting value change prevention circuit
8. Nozzle heater controller (1 zone)
9. Cylinder heater controller (4 zones)
10. Pushbutton switch for emergency stop
11. Running hour meter
12. Alarm buzzer
13. Alarm for battery exchange
14. Cycle start switch

[Control unit]

1. Auto memory of molding conditions (Internal memory type for 64 molds)
2. Injection speed and pressure programmed control (6 stages for speed and 9 stages for pressure)
3. Holding pressure switch control
4. Shot step circuit
5. Screw rotation control (3 stages)
6. Screw back pressure control (3 point folded-line)
7. Injection holding pressure ramp control
8. Nozzle/cylinder temperature PID control
9. Mold opening /closing speed programmed control
10. Ejector programmed control
11. 2-step clamping injection system
12. Safety interlock for PL compliant
13. International system of units (SI) and US unit system compatible display

[Screen]

1. Setting value display screen
2. Molding condition input support function (Easy setting of conditions)
3. Machine operating status display

[General]

1. ANSI compliant
2. Specifically dedicated tools
3. Spare parts (fuses, lamps, grease cartridge)
4. Ejector rods
5. Instruction manual, drawings

[Hydraulic unit]

1. Pump system (Energy saving type)
2. Hydraulic oil filtration device
3. Solenoid valve with indicator
4. Hyd. oil temperature display
5. Hyd. oil level decreasing alarm unit
6. Hyd. oil heat up circuit
7. Hyd. oil temperature controller

Optional Specifications

[Injection unit]

1. MD type UB screw
2. MF type UB screw
3. Anti-abrasive, anti-corrosive screw
4. Anti-abrasive, anti-corrosive screw cylinder
5. Extension nozzle
6. Cylinder blower cooling unit
7. Hopper
8. Hydraulic shut-off nozzle
9. Ceramic heater bands
10. Flow meter of cylinder jacket
11. Temperature control of feed throat water jacket
12. Screw rotation torque up

[Clamp unit]

1. Locating ring for easy alignment of mold
2. Automatic opening and closing device for rear door
3. Air ejector device
4. Hydraulic core pull device (4 channels)
5. Air core pull device
6. Piping for mold cooling water
7. T-slotted platens
8. Lifting platform inside platens
9. Confirmation circuit of in-mold-ejector retraction
10. Rotating core circuit
11. Mold alignment V-block
12. Interface for mold clammer
13. Mold changer interface
14. Gate valve device
15. Gate cut circuit
16. Magnetic filter (for Eco servo pump system)
17. Center press platen (2800emX)

[Electrical unit]

1. Heater burn-out detector
2. Outlet circuit
3. Printer with interface
4. Warning light
5. Recording jack
6. Heater subset control
7. Automatic cycle stop circuit
8. Link memory with take-out robot
9. Insert circuit
10. Unmanned operation circuit
11. Case change circuit
12. Quality judging circuit
13. External signal output circuit

[Control unit]

1. Holding pressure change over control (Mold internal pressure/external signal)
2. External memory (128 molds, USB memory device)
3. Auto memory of temperature (mold, cylinder jacket)
4. Hot runner temperature control
5. Foreign language
6. MOLD24i
7. Web MAC
8. packet MAC
9. SCS circuit
10. Screenshot

[General]

1. Machine color option
2. Spare parts for 2 years
3. Tools
4. Spare grease cartridge



ELECTRIC INJECTION MOLDING MACHINES

emX SERIES

1200/1450/1800/2200/2800/3300/3900

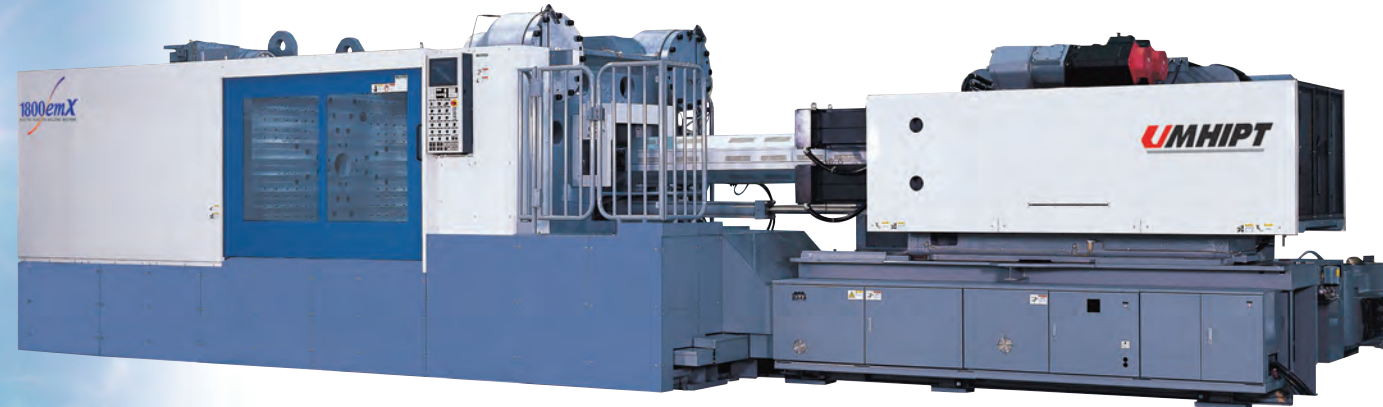
The Standard for a New Generation

The new and improved *emX* series.

Offering stronger performance and better environmental characteristics than its highly regarded predecessor, the *em* series.

With major upgrades to most of the *em* series components and mechanisms, the *emX* series offers upgrades in both quality and performance.

Meeting the Needs of a New Generation and Shaping the Future

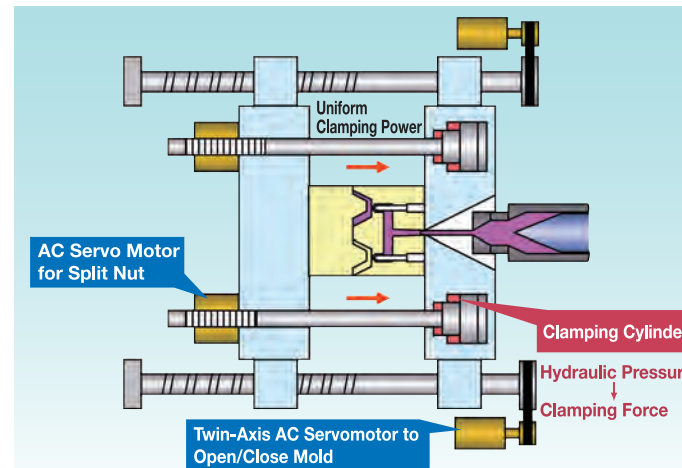


High Speed, High Precision, Small Footprint

Two-Platen Clamping Mechanism

- Featuring a short 2-platen clamping mechanism, the machine's dimensions allow for an efficient factory layout.
- Four-point clamping design maintains precision over the long term, extending the life cycle of your molds. This design works very well even with offset molds and single molding.
- Dual controlled ball screws provide synchronously driven, highly responsive mold opening and closing motions.
- AC servomotor driven tie-bar split nuts operate at high speed. Simultaneous actuation of the four split nuts keeps cycle time to a minimum.
- Mold open/close dry cycle reduced by 20% (compared with U-MHIPT hydraulic models).
- Built-in hydraulic power unit features large-capacity supply and reduces core actuation time.

[2-Platen Clamping Mechanism]



Compact, Faster, and Environmentally Conscious

●Two-platen clamping mechanism Compact, Faster, and Highly Precise

●Eco-servo-pump Lower energy usage; lower CO2 emissions

●Direct-drive injection Ideal for thin-wall molding

●UB Screw Lower material costs

●MAC-VIII+ User friendly, Easy to operate

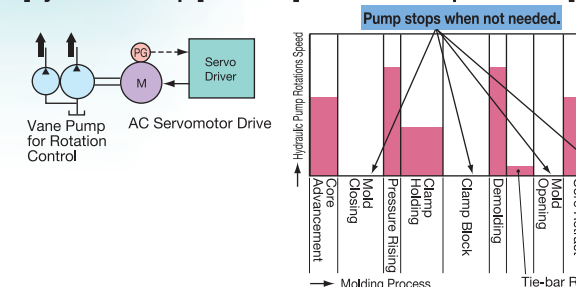
ELECTRIC INJECTION MOLDING MACHINES
1200/1450/1800/2200/2800/3300/3900



Eco-Servo-Pump System

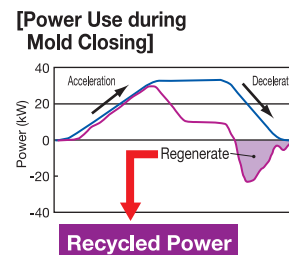
- Built-in eco-servo-pump system uses a rotation-controlled vane pump with AC servomotor drive.
- Designed to achieve energy savings for each set of operating conditions through highly precise and extremely responsive pump rotation control. The pump system can be stopped when hydraulic operation is not needed.

[System Concept]

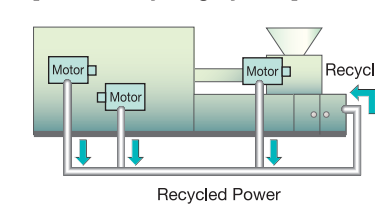


Power Recycling System

- The motor operates as a generator during deceleration (braking), sending power back to the power source.



[Power Recycling System]

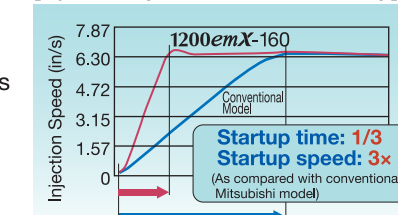


Ideal for Thin-Wall Molding

Direct-Drive Injection Mechanism

- Direct-drive mechanism uses Mitsubishi original high-torque, low-rev AC servomotor. (Synchronous drive through control of 2 or 4 ball screws.)
- Top-class high-speed injection startup. Ideal for thin-wall molding. (Speed response is on a par with high-speed hydraulic servo valve systems.)

[Injection Speed Gradient at Startup]

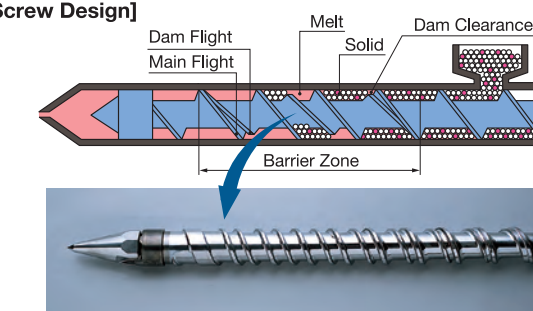


Lower Material Costs

UB Screw

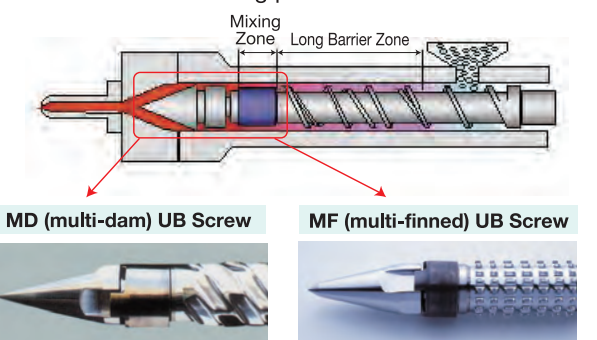
- Our original screw design features long barrier zone and dam configuration for separation of the melted and solid resin. The design offers superlative and energy-efficient kneading and plasticizing performance.
- Solid-free plasticizing enables high-multiple master batch molding and significantly expands the range of usable colorants—contributing to lower overall material costs.

[Screw Design]



Super Mixing Screw (option)

- Offers even better mixing performance...



Polygonal multi-dam configuration delivers excellent shearing and separation of unmelted resin.

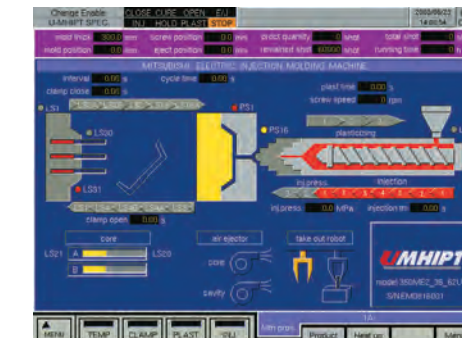
Optimally designed Dulmage-type tip delivers efficient dispersion of melted resin.

Easy Operation

New MAC-VIII+ Control Unit

- Easy input for setup data.
- Full range of screens to support molding and maintenance functions.
- Direct touch-screen operation does not require any cursor manipulation. All screens show alarm information and current processing stage, and offer easy switching to other main pages.

[MAC-VIII+ Screen Example]



[Display of Screen Image Saved to USB Memory]



- MAC-VIII+ screens may be saved as image files into USB memory and then loaded into a computer for further editing. (Optional feature)