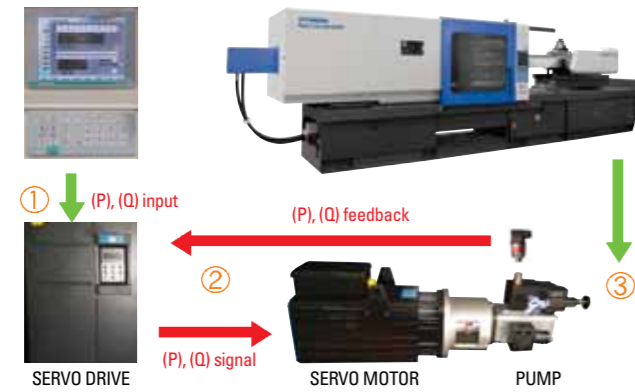


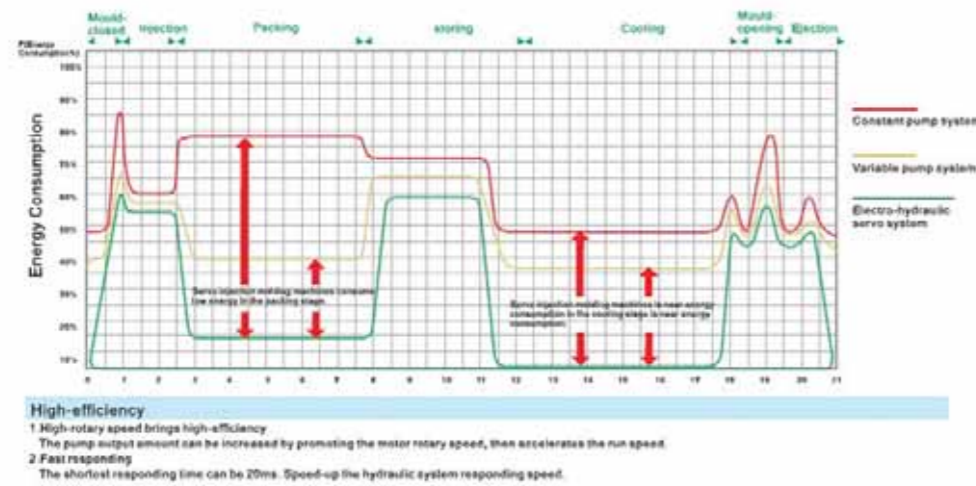
# INTRODUCTION OF HYBRID SERVO SYSTEM

## System Structure



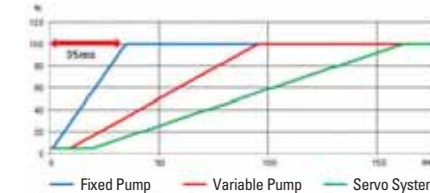
- High performance synchronous servo motor and precise servo drive system
- Accurate pressure and flow control is realized by closed loop system with encoder, pressure sensor, brake resistor and safety valve
- Servo drive controls servo motor according to the designated pressure and flow from command of the controller. The pump operated by the servo motor controls actuators accurately with the designated command signal.

## Energy Saving



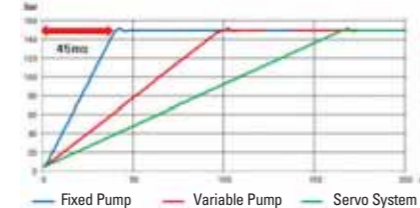
- The servo motor is only operated by command signal and rotates only 1~2% (15~40 rpm in between) during waiting process to minimize energy consumption. You can save 40~60% in energy consumption compared to general hydraulic machines

## Speed Responsiveness



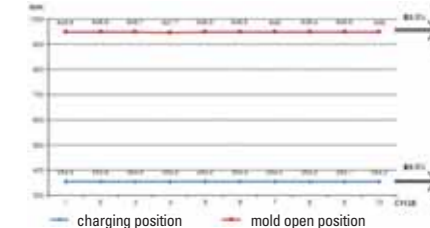
- Maximum speed (flow rate) responsiveness of 35mm/sec (It depends on the flow rate of pump)
- Reaching highest speed from lowest speed controlled by high speed responsiveness of synchronous servo motor

## Pressure Responsiveness



- Maximum pressure responsiveness of 45mm/sec
- Realize the superior control performance by minimizing response time with shortening process time

## Reproducibility



- Closed loop control of encoder and pressure sensor accurate speed in pump can control accurate servo motor rpm and pump speed
- Accurate torque and pressure control realize repeatability of 1% FS or less

## More Features

- Fast cycle time
- Low oil temperature
- Low cooling water consumption
- Low maintenance cost

ITEMS	UNIT	EDIS 80			EDIS 110			EDIS 165			EDIS 200			EDIS 275			EDIS 310			EDIS 390			EDIS 500			EDIS 600			EDIS 720			EDIS 720W								
		K	A	B	K	A	B	K	A	B	K	A	B	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C									
Screw type	-	K	A	B	K	A	B	K	A	B	K	A	B	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C									
Screw diameter	mm	30	35	40	36	40	45	40	45	50	45	50	55	55	60	65	55	60	65	66	75	85	76	85	90	83	92	98	92	100	105	92	100	105						
	in	1.18	1.38	1.57	1.42	1.57	1.77	1.57	1.77	1.97	1.77	1.97	2.17	2.17	2.36	2.56	2.17	2.36	2.56	2.60	2.95	3.35	2.99	3.35	3.54	3.27	3.62	3.86	3.62	3.94	4.13	3.62	3.94	4.13						
Theoretical Injection volume	in <sup>3</sup>	6.47	8.79	11.47	12.45	15.32	19.41	17.27	21.85	26.97	21.85	26.97	32.65	32.65	38.81	45.58	32.65	38.81	45.58	57.42	74.14	95.20	88.61	110.82	124.24	142.00	174.41	197.90	198.75	234.82	263.87	198.75	234.82	263.87						
Shot weight (PS)	g	96	131	172	186	228	289	258	326	402	326	402	487	487	579	680	487	579	680	856	1106	1420	1321	1653	1853	2118	2601	2951	2964	3502	3935	2964	3502	3935						
	oz	3.39	4.62	6.07	6.56	8.04	10.19	9.10	11.50	14.18	11.50	14.18	17.18	17.18	20.42	23.99	17.18	20.42	23.99	30.19	39.01	50.09	46.60	58.31	65.36	74.71	91.75	104.09	104.55	123.53	138.80	104.55	123.53	138.80						
Injection pressure	psi	33069	24293	18604	33496	27138	21435	32074	25332	20524	28717	23255	19230	26142	21961	18718	27650	23227	19799	25958	20098	15646	25844	20667	18433	26441	21520	18960	25190	21321	18974	25190	21321	18974						
	Mpa	228.0	167.5	128.3	230.9	187.1	147.8	221.1	174.7	141.5	187.1	160.3	132.6	180.2	151.4	129.1	190.6	160.1	136.5	179.0	138.6	107.9	178.2	142.5	127.1	182.3	148.4	130.7	173.7	147.0	130.8	173.7	147.0	130.8						
Injection rate	in <sup>3</sup> /sec	4.94	6.77	8.85	6.65	8.18	10.37	8.36	10.62	13.12	12.20	15.01	18.19	15.68	18.67	21.91	18.80	22.40	26.30	19.41	25.08	32.22	23.92	29.96	33.56	31.98	39.24	44.55	33.56	39.60	44.55	33.56	39.60	44.55						
Plasticizing capacity (PS)	lbs/hr	119.05	127.87	165.35	194.01	169.76	231.49	191.80	211.64	271.17	251.33	321.87	403.45	403.45	440.92	425.49	462.97	502.65	485.02	429.90	597.45	725.32	482.81	648.16	628.32	731.93	981.06	1137.59	738.55	873.03	981.06	738.55	873.03	981.06						
Screw stroke	in	5.91			7.87			8.86			9.84			8.86			8.86			10.83			12.60			16.93			19.29			19.29								
Screw revolution	rpm	365	255	255	340	260	260	295	235	235	114	146	183	215	215	180	270	270	215	165	165	150	130	130	130	145	145	145	105	105	105	105	105	105	105					
Clamping force	US ton	77			110			165			198			275			310			385			495			605			715			715								
Tie bar clearance (H x V)	in	13.78	*	13.78	16.14	*	16.14	18.90	*	18.90	20.08	*	20.08	22.05	*	22.05	24.80	*	24.80	27.95	*	27.56	31.89	*	31.89	35.83	*	35.43	37.80	*	37.40	40.16	*	40.16						
Platen Dimension	in	20.47	*	20.47	23.62	*	20.47	27.56	*	27.56	29.53	*	29.53	32.28	*	32.28	37.40	*	37.40	39.57	*	39.57	46.26	*	46.26	51.18	*	51.18	53.94	*	53.94	57.48	*	57.48						
Clamping stroke	in	10.24			12.20			15.75			18.11			19.69			22.44			25.59			29.53			35.43			37.40			37.40								
Max. daylight opening	in	24.41			27.95			34.25			38.58			41.34			49.21			53.94			61.02			72.83			78.74			80.71								
Mold thickness	in	5.91	~	14.17	7.87	~	15.75	8.66	~	18.50	7.09	~	20.47	11.02	~	21.65	11.81	~	26.77	12.60	~	28.35	14.95	~	31.50	15.75	~	37.40	17.72	~	41.34	17.72	~	43.31						
Ejector stroke	in	3.15			3.54			4.72			5.51			5.12			5.91			5.91			5.91			8.27			8.27			9.84								
Ejector force	US ton	3.6			4.8			4.8			4.4			7.7			7.7			12.1			12.1			18.9			18.9			18.9								
No. of ejector pins	ea	5 point / in cross line			5 point / in cross line			9 point / in cross line			9 point / in cross line			9 point / in cross line			13 point / in cross line			17 point / in cross line			17 point / in cross line			17 point / in cross line			21 point / in cross line			21 point / in cross line			21 point / in cross line					
Electric motor power capacity	kw	14.1			14.1			22			30.6			30.6			42.4			42.4			60.5			30.6			30.6			30.6			30.6					
Heater capacity	kw	11			13			16			16			24			24			27			33			33			37			43			48			58		
Total electric power capacity	kw	25.1			27.1			38			46.6			54.6			54.6			57.6			66.4			66.4			69.4			75.4			75.4			79.4		
Total oil reservoir capacity	US gal	61			61			85			92			127			137			166			214			240			264			264			291					
Machine weight	lbs	8157			10582			14771			15653			19841			29762			37478			47399			66138			70547			74956			74956					
Machine dimension (LxWxH)	ft	14.4	4.4	5.1	15.6	4.4	5.3	17.9	4.5	5.7	18.2	5.0	5.7	22.0	5.4	6.4	23.9	5.8	6.9	26.9	5.3	6.9	28.9	6.1	7.4	31.4	6.7	7.6	32.9	6.9	7.8	33.3	7.1	8.1						

※ Due to continuous improvements, we reserve the right to amend any of the above specifications without prior notice.



- Rigid design of SPI standard T-slot platen, strong toggle structure and auto clamping force adjustment etc, can be enable to high-precision, high-cycle molding and convenient operation
- By 3D structure analysis(FEA), minimize the deformation due to injection and clamping force



- Processor**
- High-Performance Controller by Gefran, Italy
  - 10.4" or 15.0" 800 x 600 Resolution TFT color LCD touch screen
  - AMD GEODE LX900 600MHz x86 CPU
  - Ethernet (standard RJ45 connection)
  - 32-key LED keyboard
  - System memory 256 MB & external USB

- Main features**
- All new high performance & high functioning MG-1050 control system
  - Statistical Process Control(SPC) function (Select 10 parameters of last 100 shots)
  - Self diagnosis & monitoring function
  - Trouble shooting support function
  - Multi line graphs (mold close, mold open, injection, charging & Temp)
  - Auto tuned PID temperature control
  - Multilingual selection
  - Dual temperature Input - K or J Type

# HYUNDAI INJECTION MACHINERY

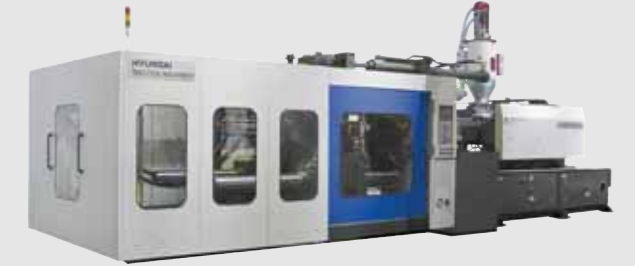
[www.hdinjection.com/us](http://www.hdinjection.com/us)



PRODUCTS PREVIEW

ITEMS	UNIT	EDIS 1000DL		EDIS 1150DL		EDIS 1300DL		EDIS 1450DL		EDIS 1800DL		EDIS 2000DL		EDIS 2200DL		EDIS 2750DL		EDIS 3300DL										
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B									
Screw type	-	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B									
Screw diameter	mm	110	120	110	120	110	120	120	130	130	140	130	140	140	150	150	160	160	170									
	in	4.33	4.72	4.33	4.72	4.33	4.72	4.72	5.12	5.12	5.51	5.12	5.51	5.51	5.91	5.91	6.30	6.30	6.69									
Theoretical Injection volume	in <sup>3</sup>	350.89	417.52	350.89	417.52	350.89	417.52	455.48	534.57	587.23	681.09	587.23	681.09	704.52	808.81	862.69	981.57	1104.29	1246.59									
Shot weight (PS)	g	5232	6227	5232	6227	5232	6227	6793	7972	8757	10156	8757	10157	10506	12061	12865	14637	16467	18589									
	oz	184.55	219.65	184.55	219.65	184.55	219.65	239.62	281.20	308.89	358.24	308.89	358.28	370.59	425.44	453.80	516.30	580.86	655.71									
Injection pressure	psi	24151	20297	24151	20297	24151	20297	24393	20780	21449	18505	24322	20965	24677	21491	23013	20226	20226	17921									
	Mpa	166.5	139.9	166.5	139.9	166.5	139.9	168.1	143.2	147.8	127.5	167.7	144.6	170.1	148.2	158.7	139.5	139.5	123.6									
Injection rate	in <sup>3</sup> /sec	58.36	69.45	58.36	69.45	58.36	69.45	71.07	83.41	80.81	93.72	90.38	104.84	89.09	102.28	106.06	120.64	120.64	136.20									
Plasticizing capacity (PS)	lbs/hr	1042.79	1283.09	1042.79	1283.09	1042.79	1283.09	1483.71	2054.71	1585.12	1858.50	1644.65	2065.73	2169.35	2105.41	2105.41	2396.43	2396.43	2705.07									
Screw stroke	in	23.82		23.82		23.82		25.98		28.54		28.54		29.53		31.50		35.43										
Screw revolution	rpm	110		110		110		125		90		100		105		105		105										
Clamping force	US ton	990		1155		1320		1430		1760		1980		2200		2750		3300										
Tie bar clearance (H x V)	in	51.97	*	44.09	54.72	*	46.85	53.54	*	45.67	56.30	*	56.30	61.02	*	55.12	63.78	*	63.78	71.26	*	63.78	76.77	*	66.93	76.77	*	66.93
Platen dimension (H x V)	in	71.65	*	62.99	74.80	*	66.93	74.80	*	66.93	77.95	*	77.95	82.68	*	76.77	84.65	*	84.65	92.52	*	84.65	100.39	*	92.52	100.39	*	92.52
Clamping stroke	in	72.83		72.83		72.83		72.83		94.49		98.43		98.43		106.30		106.30										
Max. daylight opening	in	92.52		96.46		96.48		100.39		125.98		129.92		129.92		141.73		145.67										
Mold thickness	in	19.69	~	53.15	23.62	~	53.15	23.62	~	53.15	27.56	~	53.15	31.50	~	59.06	31.50	~	62.99	35.43	~	66.93	39.37	~	74.80			
Ejector stroke	in	9.84		9.84		9.84		11.81		11.81		11.81		11.81		13.78		13.78										
Ejector force	US ton	29.2		29.2		29.2		51.8		51.8		51.8		51.8		68.2		68.2										
No. of ejector pins	ea	25 point / in cross line		25 point / in cross line		25 point / in cross line		29 point / in cross line		29 point / in cross line		29 point / in cross line		29 point / in cross line		33 point / in cross line		33 point / in cross line										
Electric motor power capacity	kw	60.5	60.57	18.5	60.5	60.57	22	60.5	60.57	22	60.5	42.4	60.5	22	60.5	60.5	60.5	60.5	60.5	60.5	60.5	60.5	42.4	42.4	60.5	60.5	42.4	42.4
Heater capacity	kw	72		72		88		97		111		67		67		90.3		110										
Total electric power capacity	kw	211.5		215		231		282.4		296.4		248.5		248.5		296.1		315.8										
Total oil reservoir capacity	US gal	660		660		660		793		793		793		793		793		925										
Machine weight	lbs	90388		94797		101411		147708		165344		209436		242505		330689		330689										
Machine dimension (LxWxH)	ft	32.7	9.9	8.2	33.1	9.9	8.2	34.4	10.8	8.3	40.4	12.1	9.8	40.4	12.3	10.3	41.7	13.1	11.2	41.7	13.8	11.2	44.9	15.1	12.1	45.6	15.1	12.5

\* Due to continuous improvements, we reserve the right to amend any of the above specifications without prior notice.



- Two-platen direct lock mechanism reduces the floor space consumption of the machine significantly
- Multi clamping system have separate half nuts and clamp cylinders on each tie bar to prevent platen deformation and able to be controlled with more precision
- Reducing the boost time by using multi selecting clamping system



## HYUNDAI INJECTION MACHINERY

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 E-mail. us@hyundai-imm.com

[www.hdinjection.com/us](http://www.hdinjection.com/us)

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# EDIS Series Energy Saving Hybrid

