

EASYMASTER **Second Generation** Servo Drive Series

80 - 560 tons

Your Precision Energy Saver



SVP/2



The Chen Hsong Group

Hand in Hand Over 50 Years

EASYMASTER Second Generation Servo Drive Series

Driven by a revolutionary intelligent servo system, the EM-SVP/2 series combines a fast-response gear pump with a high-precision servo drive, integrated with a proprietary servo controller into an affordable package that guarantees the highest response, highest precision and lowest power consumption at the same time.

1 Clamping Unit

- Tie bars are made of imported Japanese high tensile steel with a specially-hardened, chrome-plated surface; Diameter is lengthened to minimize wear-out and maximize durability
- Robust in-house manufactured ductile iron-casted platens guarantee durability and minimize platen deformation
- Multi-stage clamping speed and pressure control
- Automatic setting for high pressure clamping position
- Central electric fixed-dosage lubrication system
- Ejector speed and pressure adjustable and does not need to fully retract during vibration which shortens cycle time

Exclusive Circular Platen

- Even stress distribution to moulds, improves production stability and quality
- Greatly reduces stress concentration, lengthens mould life



(Patented ZL 01 2 57876.2)





2 Injection Unit

- Injection speed, pressure and holding in five levels
- PID barrel temperature control with auto-tuning and $\pm 1^{\circ}\text{C}$ accuracy
- High torque and high precision hydraulic motor with 99-step speed control for optimal melt environment
- Cold-prevention starting device with low temperature alarm to prevent damage of the injection unit caused by low temperature
- Decompression device to prevent nozzle from drooling

3 Cleanliness

- Equipped with a high-performance oil-filter, hydraulic oil is repeatedly filtered and cleaned during normal machine operation. It reaches NAS8 (USA) standard, which means the oil can be cleaner than new oil.
This greatly enhances the useable life of hydraulic system.
- Noise is also minimized during operation

4 Ai-02 Intelligent Computer Controller

The Ai-02 is a high-performance intelligent controller designed and developed by Japan and fully passed the JIS standards. Supported by the latest SMT technology, it maintains greatly stability and reliability. Data can be retained over five years without external power supply. Multi-lingual interface for free switch, easy for study and operation

Ultimate Energy Saving

Saves up to 80% of electricity compared to traditional fixed pump systems*

Ultimate Response

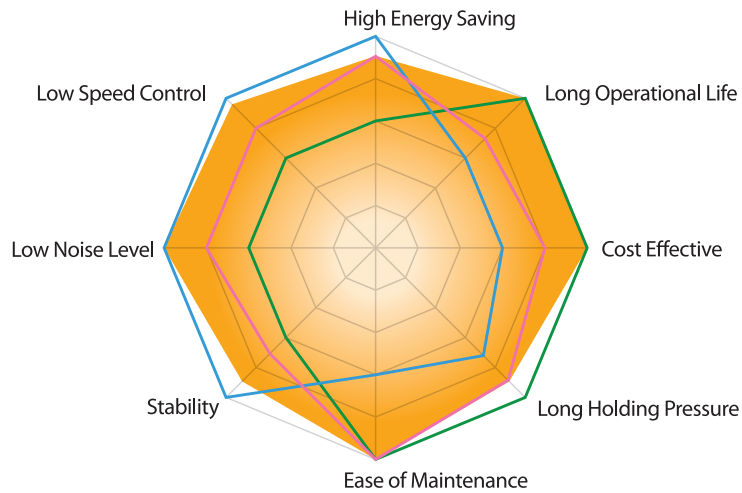
The response speed is more than double of a variable displacement pump

Ultimate Precision & Repeatability

Up to 0.5% repeatability even under extremely low speed & prolonged holding conditions

Long Operational Life

Low oil temperature conserves cooling water and reduces the need for hydraulic oil thus extends the useable lives of hydraulic parts



EM-SVP/2

All Electric

Servo Pump

Variable Pump

* Subject to different product applications and cycle times.

Items	EM-SVP/2	Servo Pump	All Electric	Variable Pump
High Energy Saving	✓	✓	✓	●
High Precision	✓	●	✓	●
High Repeatability	✓	●	✓	●
Dynamic Response	✓	✗	✓	●
Low Speed Control	✓	●	✓	✗
Long Holding Pressure	✓	●	✗	✓
Low Noise Level	✓	✓	✓	✗
Low Cooling Water Consumption	✓	✓	✓	✗
Long Operational Life	✓	●	✗	✓
Ease of Maintenance	✓	✓	✗	✓

✓ Excellent ● Average ✗ Weak

Energy Consumption*

Model	Pump	Cycle Time(s)	Injection Holding Time(s)	Time for Test(h)	Electricity Consumption (kWh)	Product(Pcs)	Electricity Consumption for each piece(kWh)	Consumption (%)	Energy Saving (%)
CJ380M3	Fixed Pump	48.5	4	8	131.04	594	0.22	100%	0%
EM400-V	VDP	48.5	4	8	72.8	594	0.12	56%	44%
EM400-SVP/2	SVP/2 Servo System	46.5	4	8	40.8	619	0.07	30%	70%



Practical Example

Resin : PP

Product : Exercise Bike

Energy Saving & Efficiency Comparison*

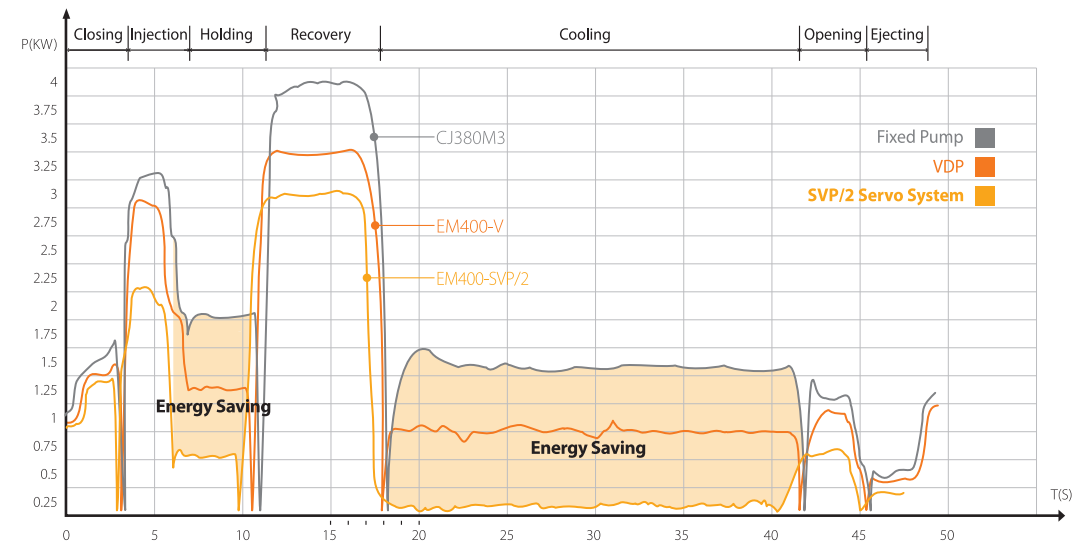
(For 500,000 pieces of product, roughly one year at 20 hours/day, 6 days/week, 52 weeks)

	CJ 380M3		EM400-V		EM400-SVP/2	
	Fixed Pump		VDP		SVP/2	
	kWh	USD	kWh	USD	kWh	USD
Production time(days)	393	-	393	-	377	-
Product (Per piece)	0.26	0.20	0.16	0.03	0.11	0.09
500,000 pieces total:	127,717	102,173	78,678	62,942	57,146	45,717

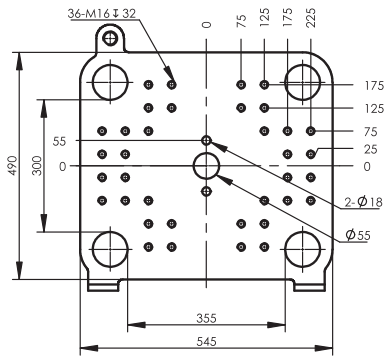
Based on USD 0.065 / kWh

Time Savings per year : **16 days**
 Cost savings per year : **USD 56,457**

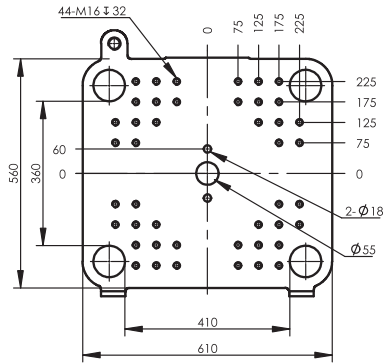
*Subject to different product applications and cycle times.



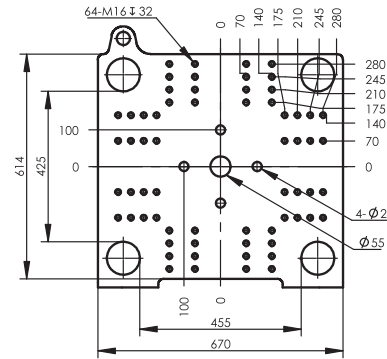
EM80-SVP/2



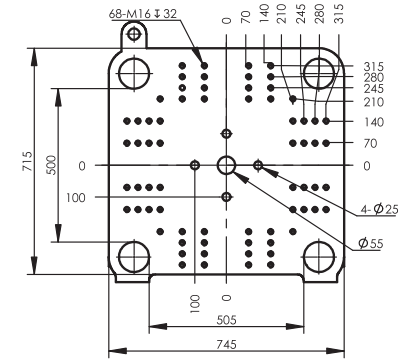
EM120-SVP/2



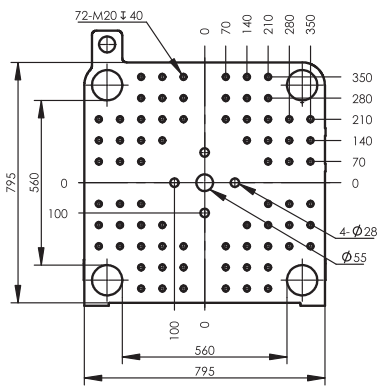
EM150-SVP/2



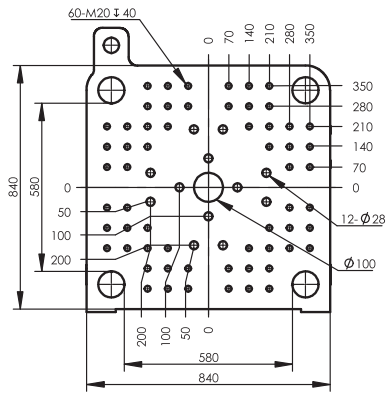
EM180-SVP/2



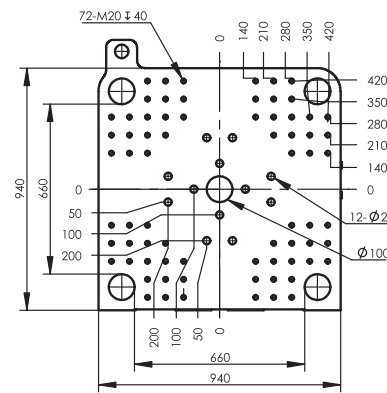
EM220-SVP/2



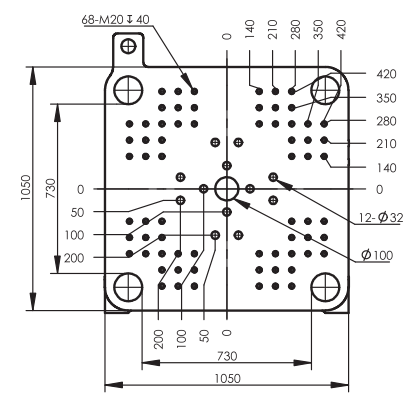
EM260-SVP/2



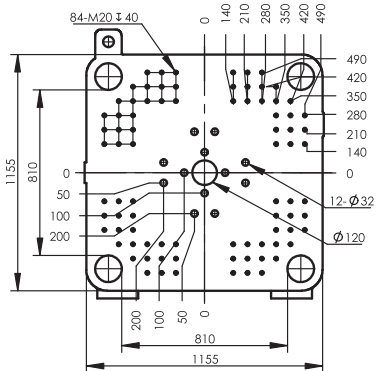
EM320-SVP/2



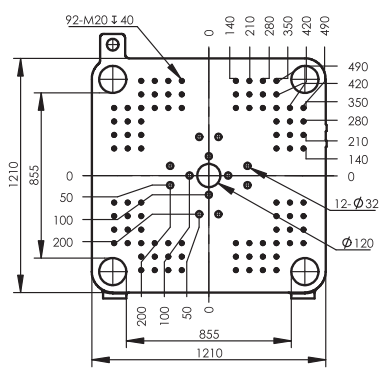
EM400-SVP/2



EM480-SVP/2



EM560-SVP/2



*Images of product are for reference and subject to change without notice

EM-SVP/2

	Unit	EM80-SVP/2	EM120-SVP/2	EM150-SVP/2	EM180-SVP/2	EM220-SVP/2	EM260-SVP/2	EM320-SVP/2	EM400-SVP/2	EM480-SVP/2	EM560-SVP/2
Injection Unit											
Swept Volume	cm ³	121 163 221	163 221 265	277 332 425	382 488 650	390 499 664	584 777 969	904 1128 1413	1216 1524 1866	1767 2164 2544	1767 2164 2544
Shot Weight (PS)	g	113 150 203	150 203 244	255 305 391	351 449 598	359 459 611	537 715 892	832 1038 1300	1119 1402 1717	1625 1990 2340	1625 1990 2340
	oz	4.0 5.3 7.2	5.3 7.2 8.6	9.0 10.8 13.8	12.4 15.8 21.1	12.7 16.2 21.6	18.9 25.2 31.4	29.3 36.6 45.9	39.5 49.5 60.6	57.3 70.2 82.5	57.3 70.2 82.5
Screw Diameter	mm	31 36 42	36 42 46	42 46 52	46 52 60	46 52 60	52 60 67	60 67 75	67 75 83	75 83 90	75 83 90
Injection Pressure (Max.)	Mpa	206 153 112	185 136 113	190 159 124	208 163 123	230 180 135	226 169 136	219 175 140	217 173 141	209 171 145	209 171 145
Screw L / D Ratio		22.7 19.6 16.8	22.7 19.6 17.5	21.8 19.5 17.3	22.2 19.8 17.2	23.3 20.6 17.9	24.2 21 18.8	23.5 21 18.8	23.8 21 19.2	23.2 21 19.4	23.2 21 19.4
Plasticizing Rate	kg/h	25.7 41.6 58.6	45.3 63.7 86.3	68.9 93.3 128	67.6 92.6 123	79.8 109 145	116 157 204	159 210 263	202 253 326	292 358 463	292 358 463
Injection Rate	cm ³ /s	60 81 110	102 139 167	123 147 188	142 182 242	130 167 222	186 248 309	231 288 361	323 404 495	368 451 530	368 451 530
Screw Stroke	mm	160	160	200	230	235	275	320	345	400	400
Screw Rotation Speed (Max.)	rpm	170	185	200	145	171	170	165	150	165	165
Clamping Unit											
Clamping Force (Max.)	t	80	120	150	180	220	260	320	400	480	560
Opening Stroke	mm	320	340	410	460	490	530	600	670	770	835
Space Between Tie Bars (H x V)	mm	355 x 300	410 x 360	455 x 425	505 x 500	560 x 560	580 x 580	660 x 660	730 x 730	810 x 810	855 x 855
Maximum Daylight	mm	640	720	860	960	1090	1130	1260	1420	1590	1685
Mould Thickness (Min - Max)	mm	130 - 320	145 - 380	160 - 450	180 - 500	195 - 600	195 - 600	220 - 660	250 - 750	275 - 820	330 - 850
Ejector Stroke	mm	80	100	100	130	130	180	180	215	250	250
Ejector Force (Max.)	t	2.3	4.2	4.2	4.9	7.7	7.7	7.7	11.1	11.1	11.1
Power / Heating Unit											
System Pressure	Mpa	14.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Servomotor Power	kW	7.5	11	13	16	16	25	36	48	50	50
Electrial Heating Power	kW	6.8	9.1	9.9	10.0	15.6	18.3	19.9	21.6	30	30
Temperature Control Zones		3 + Nozzle	3 + Nozzle	3 + Nozzle	4 + Nozzle	4 + Nozzle	5 + Nozzle	5 + Nozzle	5 + Nozzle	5 + Nozzle	5 + Nozzle
Others											
Dry Cycle Time	s	1.6	2.1	2.4	2.5	2.6	2.8	3.2	3.5	3.8	4.0
Oil Tank Capacity	liter	170	170	275	275	360	430	525	600	800	800
Machine Dimensions (L x W x H)	m x m x m	4.3 x 1.2 x 1.8	4.3 x 1.2 x 1.8	5 x 1.3 x 2	5.6 x 1.3 x 2.1	5.8 x 1.5 x 2.1	6.4 x 1.5 x 2.2	6.7 x 1.6 x 2.3	8 x 1.7 x 2.3	8.5 x 1.9 x 2.3	8.8 x 2 x 2.3
Machine Weight (Approx.)	t	2.6	2.8	3.8	4.9	5.6	7.2	9.6	12.6	16.6	17.9

The technical parameters above are for reference only and discrepancies may arise in different circumstances. The company keeps upgrading the products and reserves the right to change the product specifications and parameters without prior notice. The final interpretation to the above specifications and parameters belongs to the company.



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