

CLF



Polaris

PREFORM & CAP

PLASTIC INJECTION MOLDING MACHINE

230AE

All Electric Plastic Injection Molding Machine



1 高剛性 **2 高效率** **3 節能** **4 整廠輸出**
HIGH RIGIDITY **HIGH EFFICIENCY** **ENERGY SAVING** **WHOLE PLANT OUTPUT**

PET purpose injection molding machine characteristic features :

- Energy saving servo motor system.
- Electrical charging system, enable charging on fly, performing stable plasticizing and high production rate.
- High L / D ratio PET purpose screw, for high efficient plasticizing.
- High efficiency heating system, available in ceramic or infrared heater.
- Newly designed injection unit in low friction linear guide way to ensure precision injection and charging.
- PET purpose locking system, high rigidity platen to minimize mold deformation and increase yield rate.
- Movable platen sit on linear guide way controlled by high speed proportional valve to precisely control the position of mold opening.
- Enlarged ejector and carriage cylinder to ensure stable production.
- Fully covered panel with dehumidifier exit for effective removal of mold sweat and increase of production efficiency.



PREFORM SERIES MACHINE

In PET preform production system solution, CLF integral the entire equipment including injection molding machine, mold, robot, dehumidifying & resin conveying system, mold dehumidifier and chiller. From starting, test run, to production, enable customer to reach production target quicker and easier. For product under 48cav, CLF provide newly designed twin cylinder injection and electrical screw charging injection unit, available with options in preform auto drop or 3 stations outside cooling system for user's choice.

For production line of high productivity or short cycle time, CLF have choice for 2 stage injection system, characteristics being injection separate from plasticizing unit, resin into plasticizing unit through electrical charging reaching stable plasticizing effect. The plasticized material is then conveyed to the bottom plunger for injection and pressure holding. This system allows charging on fly to injection and pressure holding, with aid of 3 stations outside cooling system will greatly reduce the cycle time.

PET PREFORM, ONE STAGE SERIES

PREFORM TYPE		Preform				5 gallons of mineral water preform
Caliber	mm	φ28	φ28	φ28	φ28	φ55
Single piece weight	g	18	18	32	32	700
Mold cavity	cavity	32	48	32	48	4
Production cycle (free falling parts)	sec.	15	15	42	42	-
Production cycle (die cooling 3 stations)	sec.	10	10	27	27	89
Productivity (per hour)	piece	7680	11520	2743	4114	162
Machine model		285TX+4350-D90	400TX+8000-D110	50TX+8000-D110	400TX+10000-D120	500TWII+8000-D110

Machine model		285TX	350TX	400TX	400TX	500TWII
International code		2850H-4350	3500H-8000	4000H-8000	4000H-10000	5000H-8000
INJECTION UNIT	Unit					
Screw diameter	mm	90	110	110	120	110
Theoretical injection volume	cm ³	2863	4989	4989	6786	4989
Injection pressure	kg/cm ²	1521	1621	1621	1482	1621
Injection rate	cm ³ /sec	764	1014	1014	1166	857
Shot weight in (PET)	gram	3292	5738	5738	7804	5738
Screw rotating speed	rpm	150	100	100	100	100
CLAMPING UNIT						
Distance between columns (H x V)	mm	610 x 610	670 x 670	730 x 730	730 x 730	850 x 700
Dimension of platens	mm	940 x 940	1000 x 1000	1120 x 1120	1120 x 1120	1200 x 1050
Mold height max./min.	mm	650/200	700/200	750/250	750/250	900/400
Mold opening stroke	mm	610	680	750	750	1000
Clamping force	ton	285	350	400	400	500
Dia. of locating ring	mm	160	160	160	160	160
Ejector stroke	mm	150	200	200	200	200
Ejector force	ton	8.9	11	11	11	13.3
GENERAL DATA						
Heating zones	zone	9	12	12	13	12
Heating capacity	kW	38.9	50.4	50.4	65.8	50.4
Pump driving motor	kW	82	120	120	135	105
Oil tank capacity	L	1200	1700	1700	1700	1400
Machine dimension (L x W x H)	m	8.3 x 2.1 x 2.5	9.5 x 2.2 x 2.5	9.6 x 2.2 x 2.6	10.3 x 2.3 x 2.6	11 x 2.4 x 2.6
Net weight	ton	22	27	32	37	37
Cavity number (28 preform)		32	32	48	48	-
Cavity number (55 preform)		-	-	-	-	4

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PET PREFORM, TWO STAGE SERIES

- Uses energy saving servo motor and electrical charging system, save up to 40% as compared to conventional motor.
- Plunger injection type design, stable product weight, more reliable quality.
- 2 stage injection systems effectively reduce cycle time, increase production.
- Suitable for multi-cavity and heavy shot weight PET product.
- Complete turnkey, fast automation reduces labor cost.

PREFORM TYPE		Preform			5 gallons of mineral water preform	
Caliber	mm	φ28	φ28	φ28	φ55	φ55
Single piece weight	g	18	32	32	700	700
Mold cavity	cavity	48	48	72	4	6
Production cycle (die cooling 3 stations)	sec.	10	27	27	89	89
Productivity (per hour)	piece	17280	6400	9600	162	243
Machine model		400TX+3800U	400TX+3800U	600TX+6500U	500TWII+3800U	500TWII+6500U

Machine model		400TX	600TX	500TWII	500TWII
International code		4000H-3800U	6000H-6500U	5000H-3800U	5000H-6500U
INJECTION UNIT	Unit				
Screw diameter	mm	110	130	110	130
Theoretical injection volume	cm ³	3421	5641	3421	5641
Injection pressure	rpm	1101	1163	1101	1163
Injection rate	cm ³ /sec	1132	1555	952	1189
Shot weight in (PET)	gram	3934	6487	3934	6487
INJECTION UNIT					
Screw diameter	mm	105	120	105	120
Transfer volume	cm ³	3464	5655	3464	5655
Transfer weight	gram	3983	6503	3983	6503
Screw rotating speed	rpm	100	100	100	100
Electrical charging torque	Nm	10000	12000	10000	12000
Plasticization rate (PET)	kg/hr	432	615	432	615
CLAMPING UNIT					
Distance between columns (H x V)	mm	730 x 730	910 x 910	850 x 700	850 x 700
Dimension of platens	mm	1120 x 1120	1390 x 1390	1200 x 1050	1200 x 1050
Mold hight max./min.	mm	750/250	1000/300	900/400	900/400
Mold opening stroke	mm	750	900	1000	1000
Clamping force	ton	400	600	500	500
Dia. of locating ring	mm	160	200	160	160
Ejector stroke	mm	200	250	200	200
Ejector force	ton	18.5	24.7	13.3	13.3
GENERAL DATA					
Heating zones	zone	15	15	15	15
Heating capacity	kW	70	100	70	100
Pump driving motor	kW	122	175	82	97.5
Oil tank capacity	L	1500	2300	1000	1300
Machine dimension (L x W x H)	m	9 x 2.1 x 2.5	11 x 2.3 x 2.6	10.2 x 2.2 x 2.5	10.8 x 2.2 x 2.6
Net weight	ton	30	45	30	40
Cavity number (28 preform)		48	72	-	-
Cavity number (55 preform)		-	-	4	6

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CAP SERIES MACHINE

Cap production aiming for mass production and effective cost saving. CLF fast cycle hybrid injection molding machine with electrical servo drive locking system, incorporate with reliable Japanese ball screw, precise locating of ejector on fly, clean lubricating system to avoid contamination of products, single injection cylinder design, incorporate accumulator and servo valve for precision control, electrical servo motor charging system to enable charging and ejector on fly, which shorten cycle time. For mold and ancillary equipment having long term cooperating partner, CLF can provide the best solution for customer to create maximum profit.

- Hybrid design, having advantages of high precision, high speed, energy saving and multi circuit movements.
- Electrical locking mechanism design, high speed, high reproducibility, incorporate with Siemens servo motor and driver, NSK ball screw, ensuring high precision and lifespan.
- Injection packed with accumulator controlled by servo valve, single cylinder design with electrical charging, ensuring high stability, low inertia, and high acceleration.
- KEBA controller, colored 12" TFT-LCD touch screen panel.
- Ceramic heating system, high mixing PP & PE screw.

CAP TYPE		CAP	CAP	CAP
Caliber	mm	φ28	φ28	φ28
Single piece weight	g	2.55	2.55	2.55
Mold cavity	cavity	24	32	48
Production cycle	sec.	4	4	4.5
Productivity (per hour)	piece	21600	28800	38400
Machine model (hybrid machine)		180AE-HB+750D-D45	230AE-HB-D45	285AE-HB+1050D-D55

Machine model		180AE-HB	230AE-HB	285AE-HB
International code		1800H-750D	2300H-750D	2500H-1050D
INJECTION UNIT	Unit			
Screw diameter	mm	45	45	55
Theoretical injection volume	cm ³	398	398	641
Injection pressure	kg/cm ²	1889	1889	1624
Injection rate	cm ³ /sec	636	636	951
Shot weight in (PE)	gram	282	282	455
Screw rotating speed	rpm	400	400	400
CLAMPING UNIT				
Distance between columns (H x V)	mm	510 x 510	560 x 560	610 x 610
Dimension of platens	mm	765 x 765	860 x 860	940 x 940
Mold height max./min.	mm	550/200	550/200	650/250
Mold opening stroke	mm	450	550	600
Clamping force	ton	180	230	285
Dia. of locating ring	mm	125	125	125
Ejector stroke	mm	120	150	150
Ejector force	ton	4	5.2	6.2
GENERAL DATA				
Heating zones	zone	5	5	5
Heating capacity	kW	13.5	13.5	17
Pump driving motor	kW	15	15	22
Oil tank capacity	L	210	210	210
Machine dimension (L x W x H)	m	6 x 1.56 x 2.05	6.2 x 1.66 x 2.1	7.2 x 1.74 x 2.05
Net weight	ton	10	11	15

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