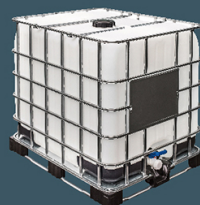
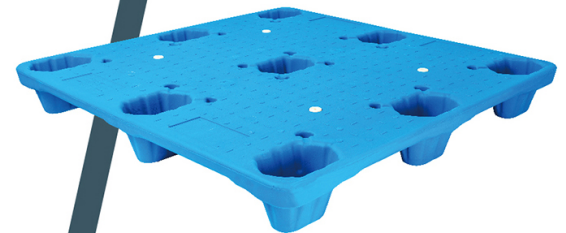




MULTILAYER CO-EXTRUSION BLOW MOLDING MACHINE

All series are equipped with

- ▲ Force feed system in extruder
- ▲ 100 points of parison control system with PLC touch panel



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MULTILAYER CO-EXTRUSION STRUCTURE

Up to 6 layers

FEATURES

- ▲ Various material formulas can be applied in the different layers for functional containers.
- ▲ Regrind material can be widely used to reduce cost without causing structural problem in the container.
- ▲ Barrier layer can be added into structure for chemical and medical application.
- ▲ Improve the structural strength of container.
- ▲ Stabilize the process and get higher efficiency

MULTILAYER STRUCTURE

N°of layer	Inner layer —————> Outer layer					
2	VR	RM	-	-	-	-
3	VR	RGD	RM	-	-	-
3	Barrier	AD	RM	-	-	-
4	Barrier	AD	RGD	RM	-	-
4	VR	RGD	AD	Barrier	-	-
5	VR	AD	Barrier	AD	RM	-
6	VR	AD	Barrier	AD	RGD	RM
6	VR	RGD	AD	Barrier	AD	RM

- VR: Virgin material. Ex: PP/HDPE/LDPE/PETG/PC/ABS
- RM: Resin with masterbatch. Ex: Color masterbatch, CaCO3
- Barrier : Special material of barrier purpose. Ex: EVOH/NYLON

- RGD: Regrid material
- AD: Adhesive material



ALL-ELECTRICAL CONTINUOUS MODEL -ECM SERIES

Continuous parison process is applied to containers up to 30 liters

- ▲ **HIGH SPEED**
Faster dry cycle
- ▲ **PRECISION**
Precise movement of clamp unit to produce better quality of container
- ▲ **ENERGY SAVING**
30% less of average energy consumption than traditional hydraulic system.
- ▲ **LOW MAINTENANCE COST**
Without hydraulic problem. hydraulic oil, oil seal, pipe and valve..etc
- ▲ **CLEANNES**
Highly recommend for the product of medical container.



HYBRID HYDRAULIC CONTINUOUS MODEL -HCM SERIES

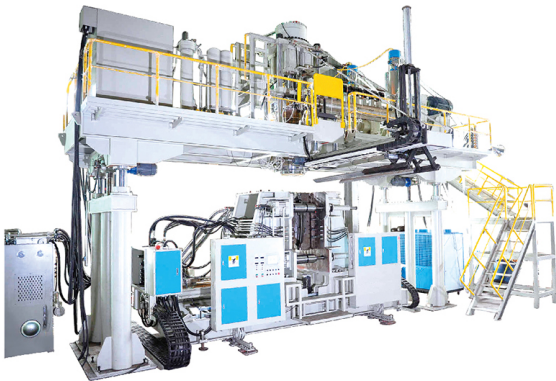


Continuous parison process is applied to containers up to 60 liters

- ▲ Faster average cycle time than accumulator head model
- ▲ Equipped with hydraulic power accumulator system to save energy

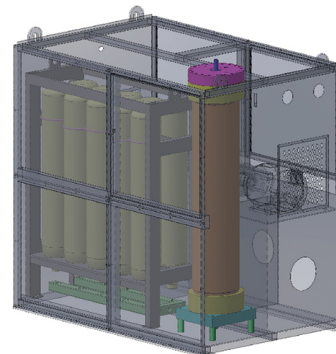


HYDRAULIC ACCUMULATOR HEAD MODEL -HAM SERIES



- ▲ Designed for the container of over-size dimension and ultra volume.
- ▲ Hydraulic power accumulator system is applied in accumulator head and clamp unit to save energy.
- ▲ Customized model can be manufactured depend on request.

- ▲ Hydraulic power accumulator system in extreme capacity.



▲ ECM single station series

MODEL		ECM-3335S-S1	ECM-3335H-S1	ECM-3840S-S1	ECM3L-0505-S1	ECM3L-0606-S1
Extruder diameter	mm	28/40/28	28/40/28	30/40/30	40/50/40	40/60/50
Clamp unit model		K3335S	K3335H	K3840S	C0505	C0606
Max. container volume	lt	2L x 1	3L x 1	5L x 1	10L x 1	30L x 1
Dry cycle	sec	1.8	1.8	2.2	3.2	4
Average cycle time (1)	sec	24	30	35	40	50
Monthly production capacity (2)	pc	90000	72000	61715	54000	43200
Average energy consumption	kW	15	15	20	25	32

▲ ECM double stations series

MODEL		ECM-3335S-D1	ECM-3335H-D1	ECM-3840S-D1	ECM3L-0505-D1	ECM3L-0606-D1
Extruder diameter	mm	30/40/30	40/50/40	40/50/40	50/75/50	60/90/60
Clamp unit model		K3335S	K3335H	K3840S	C0505	C0606
Max. container volume	lt	2L x 2	3L x 2	5L x 2	10L x 2	30L x 2
Dry cycle	sec	1.8	1.8	2.2	3.2	4
Average cycle time (1)	sec	24	30	35	40	50
Monthly production capacity (2)	pc	180000	144000	123430	108000	86400
Average energy consumption	kW	22	24	30	36	48

▲ HCM series

MODEL		HCM3L-0505-S1	HCM3L-0606-S1	HCM3L-0505-D1	HCM3L-0606-D1	HCM3L-0808-D1
Extruder diameter	mm	40/50/40	40/60/50	50/75/50	40/60/50	50/75/50
Clamp unit model		C0505	C0606	C0505	C0606	C0808
Hydraulic system						
Pump motor power	kW	15	19	19	19	19
max. pressure	bar	140	140	140	140	140
Tank capacity	lt	320	320	320	320	320
Max. container volume	lt	10L X1	30L x 1	10L X 2	30L x 2	60L X 2
Dry cycle	sec	4.5	5	4.5	5	30
Average cycle time (1)	sec	42	55	42	55	80
Monthly production capacity (2)	pc	51425	39273	102850	78546	54000
Average energy consumption	kW	30	38	44	38	44

▲ HAM series

MODEL		HAM3L-0808-S1	HCM3L-1010-S1	HCM3L-1213-S1	HCM3L-1616-S1	HCM3L-1618-S1
Extruder diameter	mm	50/60/50	60/90/60	75/100/75	90/100/90	90/100/90
Clamp unit model		C0808	C1010	C1213	C1616	C1618
Hydraulic system						
Pump motor power	kW	15	19	19	22	22
max. pressure	bar	140	140	140	140	140
Tank capacity	lt	420	550	650	800	800
Max. container volume	lt	60	120	220	1000	2000
Average cycle time (1)	sec	90	120	180	240	280
Monthly production capacity (2)	pc	24000	18000	12000	9000	7715
Average energy consumption	kW	37	89	119	156	160

▲ Unit specification

Tie-bar-less clamp unit		K3335S	K3335H	K3840	C0505	C0606	C0808	C1010	C1213	C1616	C1618
Clamp Force	kN	50	50	90	200	250	400	600	1000	1600	2000
Platen net dimensions (w x h)	mm	330 x 350	330 x 350	380 x 400	500 x 500	600 x 600	800 x 800	1000 x 1000	1200 x 1300	1600 x 1600	1600 x 1800
Daylight	mm	180/320	200/400	240/440	250/700	330/875	400/1200	450/1600	600/2000	800/2500	800/2500
Max. mold weight	kg	75	75	100	250	400	1000	2000	4000	5000	5500
Extruder		28	30	40	50	50	60	75	90	100	120
Screw L/D		25	25	25	25	25	25	25	25	25	25
Max. screw speed	rpm	80	80	80	80	80	80	70	70	70	70
Drive motor / type	kW	3.75/AC	7.5/AC	11/AC	19/AC	30/AC	45/AC	56/AC	75/AC	111/AC	111/AC
Heating zones	n°	1	1	2	2	2	3	4	5	5	5
Total heating power	kW	4	4.8	12	14	18	25	35	43	60	60
Max. output (3)	kg/h	10	18	33	52	75	117	168	210	300	300
Standard output (4)	kg/h	7.7	13.86	25.41	40.04	57.75	90.09	129.36	161.7	231	231
Accumulator Head			A8	A12	A22	A30	A40	A50			
Capacity	lt		8	12	22	30	40	50			
Die diameter (minimum - maximum)	mm		100-250	100-300	100-350	150-450	200-620	250-700			
Heating zones	n°		4	4	5	6	7	7			
Total heating power	kW		12	18	33	45	60	75			

(1) Average cycle time are estimated by experience and test on the formula of Atenplast. Data might be different depends on the material formula and product.

(2) Monthly production are estimated by continuous production of 600 hours

(3) Max. output is measured at 100% screw speed with 100% virgin resin of HDPE

(4) Standard output is measured at 80% screw speed with 60% virgin resin of HDPE and masterbatch +40% regrind material
Guideline data are shown as standard model. It can be modified and customized depend on customer's request.
Data are subject to change without notice.

