20121222-IV

CHAITIAN.

Export Processing Zone, Ningbo 315800 China +86-574-8617 7242 +86-574-8622 1864

HAITIAN INTERNATIONAL HOLDINGS LIMITED

NINGBO HAITIAN HUAYUAN MACHINERY CO., LTD.

haitian@mail.haitian.com www.haitian.com

223 Hing fong RD Kwai Fong N.T haitian@mail.haitian.com

Metroplaza Tower 2

A Member of Haitian International

Haitian Partner:









Second generation energy-saving servo injection molding machines



With the market success of the Mars Series machine, Haitian is proud to release the next generation.

The Mars II Series machine brings advances in clamping Unit design with improvements to the servo hydraulic system. Providing more energy-saving advantages and faster machine movements.

The new control system increases the machine functionality and overall system efficiency.

MA 900 II / 300



MA 10000 II / 8400



We Create Advantage 2.

Energy-saving:	Highly optimized servo energy-saving technology, with improved efficiency and lower energy consumption.
Precision:	Redesigned clamping unit with optimized kinematics for higher precision.
Higher Efficiency:	Optimized clamping unit provides lower energy consumption and faster movements for reduced cycle times.
Safety:	Safety system incorporating hydraulic safety valve with feedback to meet national safety standards.
Stable:	Closed loop servo drive system providing stable conditions for various molding applications.



2

Second generation energy-saving servo injection molding machines





Figure ① Optimized platen design using FEA software. Higher rigidity and stability.

Figure 2

Hydraulic safety valve with electrical feedback for optimal safety.

4

Motion curve comparison of transmission ratio





Figure 3

Redesigned toggle kinematics for higher efficiency and lower energy consumption for small and large machines.

Figure 4

Faster clamping movements due to optimized toggle kinematics and position sensing.









Fixed platen with centralized force loading and less platen flexing.

Figure 6

Redesigned clamping unit providing lower platen stress and higher mold force stability. Reducing mold wear and improving molded product stability.

Figure 7

Redesigned moving platen providing centralized force distribution from the toggle system to the mold.

Figure 8

New graphite/steel bushings providing better lubrication and lower lubrication consumption which improves the life of the clamping unit.

Figure 9

OPTION-

Automatic tie bar removal device for easier loading of large or complicated molds into the machine.





Second generation energy-saving servo injection molding machines





Figure ①

The rigid one piece injection base supports the common slide rail for injection and screw movements, reducing stress and increasing movement precision. The balanced twin injection cylinders apply equal force to the screw during injection.

Figure 2

Special coupling designed for strong screw forces required during the injection/charging/decompression process. Designed for easy removal during screw changes.







Figure 3

Nozzle cover with safety limit switch.

Figure ④

Optional screw designs for different material processing applications

Figure (5)

Two layer barrel cover with optional insulation material for increased energy savings.



Figure 6

Option Energy saving thermal covers for each heater. Reducing the radiant heating losses by 20-50%.

Figure ⑦

Safety chains for high pressure hoses can prevent hoses hurt people.

Second generation energy-saving servo injection molding machines

Patented Servo Hydraulic Drive System for Injection Molding Machines

Haitian is the global leader for servo hydraulic plastic injection molding machines.

The Mars Series machine was launched to the market in 2007, with more than 80,000 machines sold has become the industry bench mark.

The patented servo motor /gear pump drive system was designed as a system and not the combination of standard market components as used by our competitors.

This translates into a significant advantage for repeatable high precision and low energy consumption for different molding applications and processing materials.



Servo motor with counter-rotation gear pumps





Power consumption





Figure 1

Rotary encoder

Patented servo motor to gear pump design. The direct drive connection between the servo motor and the gear pump, provides excellent drive torque giving maximum acceleration and deceleration speeds for all machine functions. The patented drive system is a true advantage for high stability and repeatable molding conditions.

Figure 2

Hi efficiency gear pump for stable operation and low energy consumption.

Water consumption



Figure 3

The European servo motor controller is matched to the drive motor for optimal efficiency and repeatable accuracy.

Figure ④

The Mars II drive system provides significant cost savings for machine energy consumption compared to traditional hydraulic drive systems.

Figure (5)

The consumption of hydraulic oil cooling water is dramatically reduced due to the on-demand control of the servo drive system. Only the required quantity of oil is used during each stage of the machine cycle, which eliminates bypass oil wastage as found in traditional hydraulic systems.

Figure 6

Servo motors ranging from 7.5 kW to 160 kW are specially designed to meet the high demands of the plastic injection molding machine process requirements.

Second generation energy-saving servo injection molding machines

Standard Controller



10" or 12" high resolution LCD screen with optimized panel layout for convenient machine operation.

Optional Controller:- KEBA 2580



12" or 15" high resolution LCD touch screen. with extended machine functions and flexibility to meet complex machine operations.

Standard controller

- » Two parallel CPU's for faster data processing with full digital control .
- » Network compatible with the i-net factory management system for real time monitoring of the production data for statistical analysis and process optimization (Optional)
- » Large Internal memory for mold data storage
- » Closed loop PID barrel heating temperature control

Optional controller

- » Extended functions for molding applications requiring a higher level of machine options.
- » Cycle sequencer for full function control.

Specification	MA 800	MA 8000 II / 6800		
Screw diameter mm	A	В	C	D
Screw L/D ratio	90	100	110	120
Shot size (theoretical) cm3	24.4	22	20	18.3
Injection weight (PS) g	2990	3691	4467	5316
Injection rate (PS) g/s	2721	3359	4065	4838
Injection pressure mpa	544	671	812	967
Plasticizing rate (PS) g/s	228	184	152	128
Screw speed rpm	78.2	95.9	114	133
CLAMPING UNIT KN		0~	·118	0.1
Clamp tonnage mm		8	000	
Toggle stroke mm		1040		
Space between tie bars mm		1000 × 1000		
Max. mold height mm		1000		
Min, mold height mm		4	20	
Ejector stroke Ejector force KN		2	280	
Ejector number pcs		186		
OTHERS			21	
Max. pump pressure MPa	1		16	
Pump motor power KW		22	+55	
Heater power KW		63.75		
Machine dimension(I * W * h) m		10.9x2.32x2.7		
Machine weight t		38		
Hopper capacity kg		200		
Oil tank capacity L		1280		

Platen dimensiond Moving platen



Platen dimensiond Mounting hole for robot/sprue picker top view from fixed platen



Machine dimensions We reserve the right to make changes as a result of further technical advantages.





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- » Closed loop PID barrel heating temperature control

Optional controller

- » Extended functions for molding applications requiring a higher level of machine options.
- » Cycle sequencer for full function control.

Specification	MA 210	MA 21000 II / 19300		
Screw diameter mm	A	В	C	D
Screw L/D ratio	140	150	160	170
Shot size (theoretical) cm3	24	22.4	21	19.8
Injection weight (PS) g	10468	12017	13672	15435
Injection rate (PS) g/s	9526	10935	12442	14046
Injection pressure mpa	1219	1399	1592	1797
Plasticizing rate (PS) g/s	184	160	141	125
Screw speed rpm	153	174	194	220
CLAMPING UNIT KN		0~	-84	the second second
Clamp tonnage mm		21	000	
Toggle stroke mm		18	300	
Space between tie bars mm		1750	x 1600	
Max. mold height mm		17	700	
Min, mold height mm		7	80	
Ejector stroke Ejector force KN		4	00	
Ejector number pcs		4	30	
OTHERS		2	29	
Max. pump pressure MPa		1	7.5	
Pump motor power KW		110)+55	1
Heater power KW	117.75			
Machine dimension(I * W * h) m		15.9 x 3	3.6 x 5.3	
Machine weight t		139		
Hopper capacity kg		400		
Oil tank canacity I	2240			

Platen dimensiond Moving platen



Platen dimensiond Mounting hole for robot/sprue picker top view from fixed platen





changes as a result of further technical advantages.

Machine dimensions

We reserve the right to make

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HC Series Blow Molding Machine Project Solution



Brief introduction about KINGSWEL MACHINERY GROUP







ZHANGJIAGANG KINGSWEL is one member of kingswel group; its register financing is 5 million dollars. Professional design, manufacture and sell different sizes blow molding machine. They are appropriate for 0.01-5000L plastic bottle, kettle, barrel, cases, toy, plastic tray, ultra-large type plastic barrels and other hollow products. 1000L hollow blow molding machine which is largest in Asia was born here. Various products are exported to Southeast Asia, Europe, America, Arab and other parts of the world; domestic market share is more than 56%. All control elements of products pass the United States UL, CSA inspection; they are the highest quality products of the international. In order to strict product quality and shorten delivery time presses, company spend much money in importing foreign advanced management mode, let our management to a new stage, which greatly ease the contradiction between supply and demand.





First company in CHINA that pass ISO 9001 (2000) The first plastic machinery that successfully implement ERP (comprehensive enterprise resource computerized management)



UNITE PRICE: EXW FACTORY PRICE (including one series of spare parts)



:





SE Kingswel Machinery 王牌机械

Your satisfaction is my pleasure

NO.	Name	Spec.	Quality	Best price USD ON EXW
1	HC100E Kingswel Blow molding machine	Kingswel ENHANCE THE DIE HEAD MOOG100 POINT PHASE BRAND SERVO MOTOR	1	
2	Bottom Blowing device	Kingswel Standard	1	
3	Take out device	Kingswel Standard	1	
4	Package	Panel		
Mold				
1			1	

TOTAL EXW NET PRICE FOR U IS ------ USD



Production System of Automatic High Speed Blow Molding Machine: Mode: Series of HC100

BASIC INSTALLATION INCLUDING

:

Die head system	Accumulator	
Extrusion system	Screw: It was designed specially based on working quality of material. Material of screw: High quality nitriding steel 38CrMoAlA, with nitriding surface HV≥800, brittleness≤2.	
	Barrel: High quality nitriding steel 38CrMoAlA, with nitriding surface $HV \ge 900$, brittleness ≤ 2	
	Drive mode: frequency control + Hard gear surface decelerator.	

	Temperature Controlling: Adopt automatic temperature control module.	
Clamping Device	Adopt bi-directional synchronous clamping device with double axis single cylinder to stabilize equipment well	
Frame	It has auto go-down lifting, driven by hydraulic motor. The size of the transmission rod is increased to ensure the transmission force. The size of the lift is large, adapting to mold changes, and production reduces costs.	
Hydraulic system	Use double-vane pump. The main hydraulic system adopts Japan YUKEN, pressure of proportion,flow control, With feedback of oil pressure, response of clamping is quickly, output is more precise, action is more smooth, pressure is big, the range of torsion is large. It have characteristic such as no pressure, no flow loss,energy conservation,working life is longer.	

:

SC Kingsw 王牌	rel Machinery 机械	(* 5a	tisfo	nction is my pleasure
Electric controlling system	Every electric world-component famous brand.	is	of	

www.kingswelmachines.com

「日日 Kingswel Machinery 日日 王牌机械

Your satisfaction is my pleasure

Enclosure:

Technical data and parts instructions of blow molding machine for series of HC100

HC100			
Max. volume of products(L)	120		
Extrusion			
Screw diameter (mm)	Φ100		
L/D	30:1		
Screw Revolving Speed(Rev. /Min.)	10~80		
Plasticizing capacity (kg/h)	180(HDPE)		
Applicable raw materials	HDPE		
Heating Zone	5		
Heating Power (kW)	35		
Driving power (kW)	75		
Die Head			
Accumulator volume (L)	20L		
Max diameter of die (mm)	400		
Heating Zone	5		
Heating Power(kW)	30		
Clamping Devic	e		
Mould dimension (W×H) (mm)	1100×1700		
Stroke of mold platen (mm)	550~1400		
Max clamping force (KN)	750		
Machine Frame			

:

C Kingswel Machinery 王牌机械

Your satisfaction is my pleasure

Lifting Stroke (mm)		350
Lifting Speed (mm/min)		30
	Hydraulic syst	tem
Hydraulic system	Small pump	16
pressure (Mpa)	Big pump	12
Motor pov	ver of oil pump (kW)	37
	Parison Servo Contr	ol System
Rate	ed Pressure (MPa)	14
Ra	ted Fluid (MPa)	22
Hydrau	lic pump motor (kW)	4
Pneumatic System		
Air Resource Pressure (MPa) 0.7		
Working Pressure (MPa)		0.6-0.8
Air Consumption (m ³ /Min.)		0.4-1
	Water Supp	ly
Wat	er Pressure (MPa)	0.3
Wat	er Fluid (L /Min.)	150
	Electrical Pov	ver
]	Power Voltage	AC380V±10%
	Frequency	50HZ
	Wire System	3 phase 4 wire system
Total	Rated Power (kW)	151
Average	consumption (kW/h)	65
Mac	hine weight (T)	17

www.kingswelmachines.com

Machine dimension (LxWxH) m

5.9x3.1x4.8

Components

:

Item	Technology content	
1.Hydraulic system	oil pump : hydraulic valve : Servo valve : Oil-way pressure control: Seal element :	SUMITOMO YUKEN MOOG proportion DZ (Taiwan-essure control) / NOK (Japan)
2. electric control	transducer : PLC: Panasonic contactor : relay : proximity switch : Schn GEFRAN (ITALY) SENSORC thickness servo control : air switch : Schneider tou HITECH 10.4" solid-s CRYDOM	Schneider Schneider OMRON eider electric ruler: light curtain senor : MOOG 100 point ch screen : state relay :
3. clamping unit	form : hydraulic clamping dir form : differential motion qui large space.	rectly, Two-way synchronization institutions drive ick Clamping, Two-rod structure g, Content model in a
4. die	Die structure : accumulator t first out material of main runner part :	ype Runner form : first in 38CrMoAlA ; 42CrMo
5.extrution	Drive form : Speed reducer : Material of barrel and screw : heating : Casting-alum huanqiu	frequency alloy steel gearbox : 38CrMoAlA inum heating device cooling fan :
6 pneumatic system	Main air valve :	CAAP / FESTO
7.clamp unit	Air cylinder:	FESTO
8.motor	PHASE	

Spare parts

No.	Name	Spec.	Quantity	Remarks
1	Air switch	DPN 20A	1 pc	
2	Air switch	C65 32A/2P	1 pc	
3	Solid relay	50A	1 pc	
4	Relay	LY2 AC220V	1 pc	
5	Φ22 Button switch	Little mushroom head 1A1B red	1 pc	
6	Fuse	Φ5Χ20 8A	4 pcs	
7	Thermocouple	WRNX-21 3.5m	1 pc	
8	Limit switch	AZ8104	1 pc	
9	Proximity sensor	TLX-12N04E1-C	1 pc	
10	High temp wire	AF300°C6mm ²	5meter	
11	Heater for mold head	HFB100/A.21-32	1 pc	Ф420Х190
12	Heater for core	The measurement is provided by customer		
13	Fan	FJ-180	1pc	
14	Hook spanner	HFB100-B-01	1 pc	
15	Socket wrench and handle	HFB100-B-03&HFB75-B-04	1 set	
16	Inner hex spanner	S=3-19mm	1 set	
17	Adjustable spanner	GB4440-84	1 pc	L=150
18	Adjustable spanner	GB4440-84	1 pc	L=300
19	Adjustable spanner	GB4440-84	1pc	L=450
20	Air pipe	Ρυφ10Χ7	6 meter	
21	Common screwdriver	GB1432-78	1 pc	YS-100X6

22	Cross head screwdriver	GB1433-78	1 pc	YS-100X5
23	Wire cutter with plastic pipe	GB6295.1-86	1 pc	L=160
24	Silencer	1/2"	1 pc	

Enclosure 1: HC100 Outline Diagram

Enclosure 2: HC100 Installation Dimension Diagram

:

Appendix : Our Clients

Part customers of KINGSWEL machinery

Your satisfaction is my pleasure

Full-automatic hollow blow molding machine produced by our KINGSWEL machinery is wide favored by users around world since we first initiate in CHINA in 1991. Our machines export to Australia, Indonesia, Singapore, Russia, Venezuela, Iraq, Iran and other countries. Domestic market share is more than 56%; these excellent results are inseparable with equipment quality, excellent service and hard working of KINGSWEL machinery. I believe, Market performance is the only standard to measure product quality. KINGSWEL machinery is willing to use the best service, best equipment and do their own best to support your company. Here are some well-known enterprises for reference:

Payment And After Sales Service :

DEFINITION OF OUR PRICE:

The range of this quotation list doesn't include the following items:

3.1. Transportation costs and insurance

PAYMENT:

30% down payment by TT and 70% of the balance paid before shipment.

DELIVERY:

Delivery no later than 60 days, after we receipt your advance payment in condition that all commercial and technical details in the contract were certified by both sides.

TRAINNING:

The seller should train two or three operating man for free. (Travel and hotel is by buyer's expenses.)

INSTALLATION AND TEST

The buyer should place the machine to the right position and inform the supplier after the machine reach the buyer's factory. The supplier will send the special men to test run the machine until it is running in normal state. The buyer will bear the come-to-return air tickets, accommodation, hotel and so on in customer's side. And the buyer will pay USD100/day/person as technician labor cost when he leaves factory until leave client's plant.

GUARANTEE

Our guarantee is valid for a period of 12 months.

If the malfunction caused of the machine's self quality; we will troubleshoot it for free. But the parts attainted should be changed to new ones.

OFFER VALIDITY

The offer is valid for any order placed within a period of 30 days. Unless otherwise stated all conditions and terms are based on this list.

The offer is offered for the buyer's need in selecting and not acts as the enclosure of contract. The contract is the only standard.

The particular technical data are shown in the enclosure. If there is some further need please get in touch with us immediately. Thank you

Factory Details :

OURSALESANDAGENT

HC90

- 1. The blow molding machine model HC90
- 2. can produce bottle, kettle, can, bucket etc.
- 3. The machine is especially designed for producing with material such as PE, PP etc.
- 4. The product capacity can reach 150 cycles per hour (idle circle).

Website : <u>http://www.kingswelexp.com/ProductInfo_43.aspx</u>

Screw Diameter (MM)	Distance of mold platen (MM)	Plasticizing Capacity(KG/H)	Clamping force (KN)	Average consumption(KW/H)
90	<u>450-1100</u>	150	270	53

НС90						
Max. volume of products(L)	50(60)					
Extrusion						
Screw diameter (mm)	φ90					
L/D	25:1					
Screw Revolving Speed(Rev. /M	10~80					
Plasticizing capacity (kg/h)	150(HDPE)					
Applicable raw materials	HDPE					
Heating Zone	4					
Heating Power (kW)	25					
Driving power (kW)		45				
	Die Head					
Accumulator volume (L)		6 (4.5kg,8L optional)				
Max diameter of die (mm)		350				
Heating Zone		4				
Heating Power(kW)		20				
	Clamping Devi	ce				
Mould dimension (W×H) (mm)		900×800				
Stroke of mold platen (mm)		450~1100				
Max clamping force (KN)		270				
Machine Frame						
Lifting Stroke (mm)	400					
Lifting Speed (mm/min)	30					
Hydraulic system						
Hydraulic system pressure (Mna)	Small pump	16				
ing araane system pressure (mpa)	Big pump	12				
Motor power of oil pump (kW)		30				

Parison Servo Control System				
Rated Pressure (MPa)	16			
Rated Fluid (MPa)	23			
Hydraulic pump motor (kW)	4			
Pneumatic System				
Air Resource Pressure (MPa)	0.8-1			
Working Pressure (MPa)	0.6-0.8			
Air Consumption (m ³ /Min.)	0.4-1			
Water Supply				
Water Pressure (MPa)	0.3			
Water Fluid (L /Min.)	100			
Electrical Power				
Power Voltage	AC380V±10%			
Frequency	50HZ			
Wire System	3 phase 4 wire system			
Total Rated Power (kW)	124			
Average consumption (kW/h)	53			
Machine weight (T)	14			
Machine dimension (LxWxH) m	5.2x2.9x4.6			