

Inversiones Nebog SAS
Tel: 573108586113 Fax: (571) 7449073
E-mail: europtel@hotmail.com

www.autofillmachine.com www.grand-packing.com

Migrand Machinery

Hunan Migrand Machinery Technology Co., Ltd.



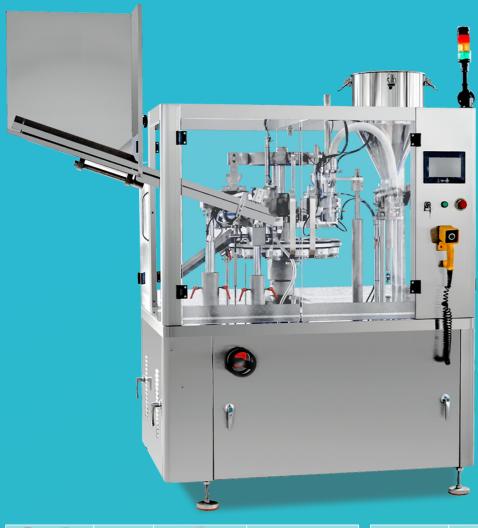




ABOUT US

Hunan Migrand Machinery Technology Co., Ltd. (Hunan Grand International Trade Co., Ltd.) is specialized in the packing machinery for more than 15 years, such as plastic bottle filling and sealing machine, tube filling and sealing machine, blister packing machine, cartoning machine, etc. Detail technical discussion + customized service + delivery & custom service + online and local after sales service Love us, Love Made-In-China

TUBE FILLING AND SEALING MACHINE







How does a tube filler work?

Application for tube filling and sealing machine

On full automatic tube filler, the empty tubes will be fed onto the machine from tube bin automatically and then inserted into the tube base. The liquid and semi liquid products will be transferred into the tank by a pump and filled into the empty tube. Then the tube will be closed by sealing or folding (for metal tubes). The batch no. can be embossed by steel letters. The filling and packing products for tube filling and sealing machine are liquid and semi-liquid, it could be widely applied in various fields as the following chart:

Tube filling and sealing machine is the semi automatic or full automatic system for unit dose filling and closing of the squeezable plastic, laminate, or metal aluminum tubes.

Field	Classification	
	Bleach cream	
	Hair color/Hair gel	
	Lotion	
	Essence/Face serum	
Personal care & Cosmetics	Body/Hand cream	
	Facial cleanser	
	Shampoo (Hair/Body gel)	
	Washing soap	
	Toothpaste	
	Wall painting gel/cream	
	Adhesive	
Chemical	Glue	
	Pigment	
Food	Ketchup	
	Peanut /fruit jam	
	Tomato paste	
	Mustard	

Model	GDT-30	GDT-60Y/Z	GDT-80A/Z	GDT-100A/Z	GDT-160A/Z	
Production capacity	10-20 tubes/min	40-50 tubes/min	60-80 tubes/min	100 tubes/min	≤200 tubes/min	
Filling volume	2-250 ml/tube	2-250 ml/tube	2-250 ml/tube	2-300 ml/tube	2-250 ml/tube	
Sealing power			3KW			
Tube diameter	12-50mm	12-50mm	15-60mm	10-40mm	12-50mm	
Filling error			≤±0.5%			
Main motor power	750W	1.1KW	1.5KW	1.1KW	16KW	
Sealing style		Heating sealing / ultrasonic sealing / folding sealing				
Working pressure	0.6MPa					
Overall dimension	1200*800*1450mm	1682*950*1941mm	2270*960*2100mm	2500*1200*2220mm	2758*2160*2600mm	
Weight	380KG	750KG	1250KG	1100KG	3400KG	

BLISTER PACKING MACHINE



Blister packaging machine is to heat the forming film, such as PVC/PET/PS in the mould to form the blister tray, fill the product into the tray from the auto feeder, and then seal

with sealing alu foil or

composite film.

Application for blister packing machine

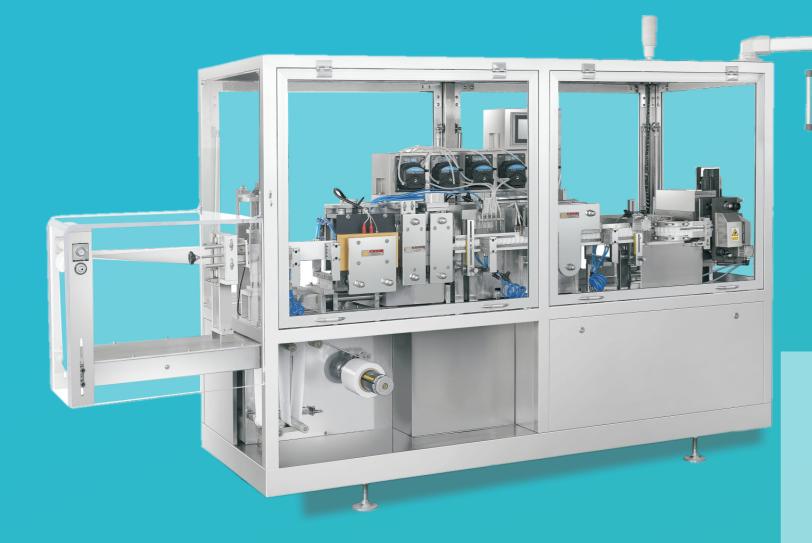
Blister machine has a wide application in different industries, we can conclude as following:

- 1. Pharmaceutical to pack the medicine such as hard capsule, soft gelatin capsule, tablet, glass ampoule and vial, etc.
- 2. Food to pack various kind of jam, oil, honey, ketchup, butter, cheese, cream in small mono-dose package.
- 3. Medical to pack the medical tools such as needle, syringe, etc.
- 4. Hardware and daily necessities to pack the hardware and household products, such as filter, spar plug, cigarette holder, etc.
- 5. Other special products such as dry flower, granules, etc.



Model	DPP-80	DPP-150	DPP-180	DPP-260		
Punch frequency	10-33 times/min	10-35 times/min	10-35 times/min	10-40 times/min		
Max. forming area	105*70mm	145*110mm	175*110mm	250*140mm		
Max. forming depth (can be customized)		26m	nm			
Stroke range	30-80mm	50-120mm	50-120mm	40-140mm		
Air pressure	0.4-0.6MPa					
Total power supply (can be customized)	220V 50Hz, 2.8KW	380V 50Hz, 3.8KW	380V 50Hz, 3.8KW	380V 50Hz, 8.5KW		
PVC	(0.15-0.5)*110mm	(0.15-0.5)*150mm	(0.15-0.5)*180mm	(0.15-0.5*250mm		
PTP aluminum film	(0.02-0.035)*110mm	(0.02-0.035)*150mm	(0.02-0.035)*180mm	(0.02-0.035)*250mm		
Dialysis paper	50-100g*110mm	50-100g*150mm	50-100g*180mm	50-100g*250mm		
Mould cooling	Tap water or recycling water					
Overall dimension(L*W*H)	1840*590*1100mm	2315*635*1405mm	2550*640*1600mm	3250*710*1700mm		
Machine weight	450KG	820KG	870KG	1400KG		

AUTOMATIC VERTICAL THERMOFORM FILL & SEAL MACHINE





Vertical thermoforming filling and sealing machine is to produce unit-dose/single serve package with thermoformable plastic material for liquid and semi-dense liquid.

Working process

The working stations of automatic vertical thermoforming filling & sealing machine is as following:

Bottle forming - Liquid filling - Bottle sealing - Batch no. embossing - Bottle punching - Discharging

Working process of automatic vertical theroform fill & seal machine

Thermoforming filling and sealing machine is to heat the thermoformable plastic, such as PET/PE, PET/EVOH/PE, PS/PE, PS/EVOH/PE, PVC/PVDC/PE, etc. and blow the heated and soften plastic in the forming mould to obtain the required bottle shape and size, fill the liquid and semi-liquid from the auto pump and then seal, punch to get the final required single serve package.

Application for thermoforming filling sealing machine

The packaging products for thermoform fill sealing machine is liquid and semi-liquid, it could be widely applied in various fields as the following chart:

Field	Classification	
	Syrup	
Pharmaceutical & nutrition	Vitamin	
	OTC drinks	
	Bleach cream	
	Hair color/Hair gel	
	Lotion	
Personal care & cosmetics	Essence/Face serum	
	Body/Hand cream	
	Facial cleanser	
	Shampoo (Hair/Body gel)	
	Washing soap	
	Ticks & fleas potion	
Pet care	Ear drops	
i et care	Cats&dogs shampoo	
	Pesticide	
Chemical	Fertilizer	
Chemical	Detergent	
	Car perfume	
	Cheese	
	Yogurt	
Food	Butter/Margarine	
	Chocolate	
	Jam	
	Ketchup	
	Olive oil	
Chemical	Vinegar	
	Sauce & Dressing	
	Sport drinks	
Povorago	Herbal drinks	
Beverage	Concentrated drinks	
	Alcohol drinks	

Model	GGS-118P2 (2 filling heads)	GGS-118P5 (5 filling heads)	GGS-240P5 (5 filling heads)	GGS-240P5-A (5 filling heads)	GGS-240P10 (10 filling heads)	GGS-240P15 (15 filling heads)
Max. forming depth	12n	nm		12mm		
Cutting speed		0-25 times/min		0-25 times/min		
Filling volume	0.8-100ml			0.8-200ml		
Packing material	PVC/PE, PET/PE, PET/EC	E combined sheet (thickness: 0.2-0.4	mm)	PVC/PE, PET/PE, PET/EOE combined sheet (thickness: 0.2-0.4mm)		
Power supply	3.5KW	4.5KW	6.5KW	7KW	22KW	22KW
Voltage	220V/380V 50HZ (d	can be customized)		380V 5	50HZ	
Machine dimension	1800*800*1400mm	2300*850*1500mm	3200*850*1400mm	3380*950*1800mm	5200*850*1600mm	7300*1050*1800mm
Machine weight	550KG	750KG	1200KG	1000KG	2200KG	3000KG









FULL AUTOMATIC CAPSULE FILLING MACHINE



Capsule filling machine is the device which is mainly used in the pharmaceutical, supplement industries for filling powder, granule, pellet or even liquid into the hard gelatin capsules.

Which capsules can be used on the capsule filling machine?

All capsule types can be filled with the machine. The hard gelatin capsule (size #000 - #5), safety capsule or SUPRO (size A – E) and also the vegan capsule can all be used on the capsule filling machine

The different capsule sizes are used on the machine by changing the size changed parts.

How to choose a capsule filling machine?

First we have to calculate the capacity we require. Then we have to think which capsule size will be applied in the machine and which powder will be filled into the capsule. If we fill the pellet, we have to install the Pellet Feeding device in stead of the Powder Feeding device.

The machine production capacity mentioned in the machine model, for example model NJP 800 means the machine's capacity installed = 48,000 capsules/hour (800*60).

Normally the filling process is stable on the speed around 80% from the capacity (around 38,000 capsules/hour), which making the machine run on the optima speed to get the best filling result.

Sometimes the machine speed also depend on the powder type to be filled into the capsule.

For lab use and small scale production, we can also choose semi-automatic capsule filling machine.

Model	NJP-200	NJP-400	NJP-800	NJP-1200	NJP-2500	NJP-3800	NJP-7500
Max. capacity (pcs/hour)	12000 pcs	24000 pcs	48000 pcs	72000 pcs	150000 pcs	228000 pcs	450000 pcs
No. of filling holes	2	3	6	9	18	27	54
Suitable capsule size		000#~5# and #A - #E					
Suitable capsule type			vegan, vege	etarian and gelatir	n capsules		
Suitable product			Powde	er/granule/pellet/li	iquid		
Total power	3.75KW	3.75KW	5.57KW	5.57KW	6.97KW	9.85KW	13.5KW
Overall weight	600KG	600KG	900KG	900KG	1300KG	2400KG	3800KG
Machine dimension(mm)	750*680*1700	750*680*1700	1020*860*1970	1020*860*1970	1200*1050*2100	1850*1470*2080	1700*1220*2150



TECHNICAL INFORMATION FOR SEMI AUTOMATIC CAPSULE FILLING MACHINE



Machine model	CGN208-D1/DTJ-V/DTJ-C			
Max. output	200-350 capsules/min depends on operating speed			
Capsule size	Suitable for filling capsule size 00#-4# SUPRO capsule AE (molds need to be changed accordingly)			
Dosage type	Powder/granule /pellet/liquid			
Power supply	380V or 220V (can be customized)			
Machine dimension/N.W.	1200*700*1650mm Net Weight: 400KG			

ROTARY TABLET PRESS

ZPG29



Application

This machine is widely used in pharmaceutical, food, chemical, agrochemical, fertilizer, and other industries. It can pressed all kinds of granular materials that meeting the requirements, and also special shaped tablets and double-sided engraving tablet.

■ Main features

- 1) The pressure is high enough to meet the better quality requirements of the pressed tablet.
- 2) Adopts IPT punching dies, double pressure for double-sided tablet pressing and high production efficiency.
- 3) Adopts PLC programmable controller for control and color touch screen for operation, easy and intuitive to operate.
- 4) Equipped with enclosed forced feeder. When the machine operates at high speed, it can fill forcibly, to shorten the filling time and ensure the stable tablet weight.
- 5) Equipped with main pressure display, pressure overload protection device. When the pressure is overloaded, the machine will be automatically shut down. There are also overpressure protection, emergency stop, frequency converter, fault alarm protection, strong exhaust heat dissipation device, etc.
- 6) The working area adopts fully enclosed transparent windows with less dust pollution and excellent sealing. Components are made of stainless steel or with special surface treatment, which can prevent cross pollution and meet GMP requirements.

Model	ZPG-29	ZPW29	ZPW420-21B
Punching die qty	29 sets	29 sets	21 sets
Punching type	D	/	1
Max. pressure	100kn	100kn	120kn
Max. filling depth	18mm	15mm	30mm
Max. tablet thickness	6mm	6mm	9-15mm
Max. tablet diameter	25mm	25mm	35mm
Production capacity	139200 pcs/h	70000-90000 pcs/h	10000-50000 pcs/h
Max. turntable speed	40r/min	36r/min	10~25r/min
Main motor power	7.5kw	7.5kw	7.5kw
Machine dimension	1200*900*1800mm	1230*950*1670mm	1300*1500*1850mm
Main machine weight	2380kg	1850kg	2000kg

ZPW29



ZPW420-21B



▲ Application

This machine is a double-pressed versatile rotary tablet pressing machine, which can press granules into tablets, there fore it is widely used in pharmaceutical, food, chemical, agrochemical, fertilizer, and other industries. It can press all kinds of granular materials that meeting the requirements, and also special shaped tablets, ring-shaped tablets and double-sided engraving tablets.

▲ Main features

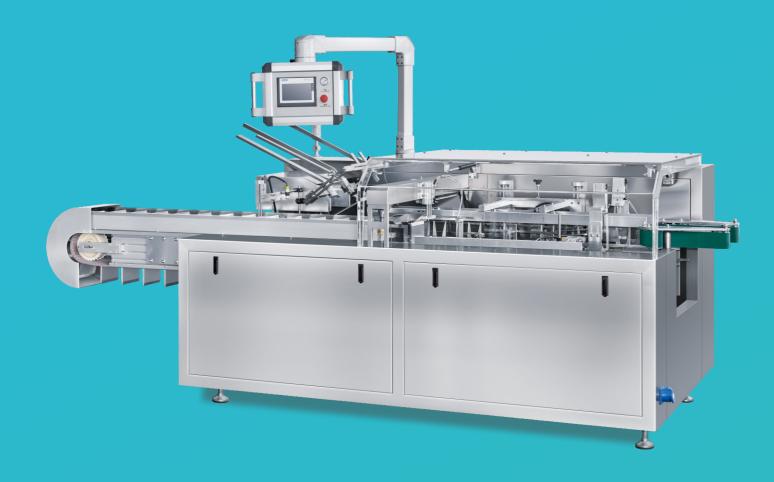
- 1) The outer cover is fully enclosed and made of stainless steel, the internal table is made of stainless steel as well, which can keep the surface gloss and prevent cross-contamination, in line with GMP.
- 2) With the transparent protective cover, operators can monitor the machine operation clearly. It can be fully opened for easy cleaning and maintenance.
- 3) Adopts stepless regulation, so the rotary speed can be adjusted freely.
- 4) Easy operation, smooth rotation, safe and accurate production. Adopts electromechanical integration, touch screen PLC for control and operation.
- 5) Transmission system is immersed in the oil tank under the main machine, which is an independent part of safety separation, avoiding pollution each other. The transmission shaft will be fully lubricated in the oil pool, reducing noise and abrasion.
- 6) Mechanically equipped with a dust collection device, which can absorb the dust flying in the pressing room.
- 7) When pressing double-layer tablets, production output is halved.

▲ Tips for tablet agrochemical application

- 1. Vitamin C tablets are weakly acidic, which can regulate soil acidity and alkalinity, fasten root development of acid-loving flowers and improve their resistibilities.
- 2. Vitamin B12 tablets play the role of disinfection and sterilization, which can promote rooting and germination if mixed them in the flower soil, so that the flowers can quickly survive in the pot.
- 3. The main ingredient of aspirin tablets is salicylic acid, which balances the pH value of the soil to become soft and fertile.
- 4. Effervescent tablets are very popular in the agrochemical industry recently, mainly used in new water-soluble fertilizers, pesticides, herbicides and chlorine tablets.



CARTONING MACHINE



This machine is a new model developed by our company in combination with advanced technology at home and abroad. It is a high-tech product integrating light, electricity, air and machinery. As a result, the machine performance and work efficiency have been greatly improved, fast cartoning is realized, and the stable and reliable state is still maintained during fast operation.

This model is suitable for automatic feeding and boxing of food, medicine, daily chemicals, entertainment, hardware and other items. The automatic feeding mechanism is convenient to adjust, and the speed of cartoning can be set arbitrarily on the operation screen. The whole process of online material inspection, batch number imprinting, paper tongue packaging at both ends of the carton (hot melt adhesive is also applicable), material shortage removal and finished product output are all completed automatically.

	Model	GDC-120	GDC-130	GDC-50		
C	Cartoning speed	30-80 cartons/min (depending on carton size and product)				20-50 cartons/min
Cartan	Quality	250	-350g/m² (depending on carton si	ze)		
Carton	Dimension (L*W*H)	(65-155)*(30-85)*(14-55)mm	(70-200)*(30-150)*(13-100)mm (as customer's requirement)	Max.: 200*120*120mm Min.: 60*20*20mm		
	Quality	60-7	70g/m²			
Leaflet	Unfolded leaflet size (L*W)	(80-250)*	Pre-folded, insert the folded leaflet into carton automatically.			
	Fold	1-4	folds			
Compressed	Working pressure	≥0.	6МРа	0.5-0.8MPa		
air	Air consumption	120-1	60L/min	260L/min		
	Power supply	220V, 50HZ 380V 50Hz		Single phase, 220V 50/60Hz		
M	ain motor power	0.75KW	1.5KW	1/4HP 15:1, 1.5KW/H		
Overa	ll dimension (L*W*H)	2000*990*1700mm	3100*1100*1550mm (can reference the drawing)	1100*1500*1450mm (L*W*H)		
ı	Machine weight	About 1100KG	About 1600KG	450KG		

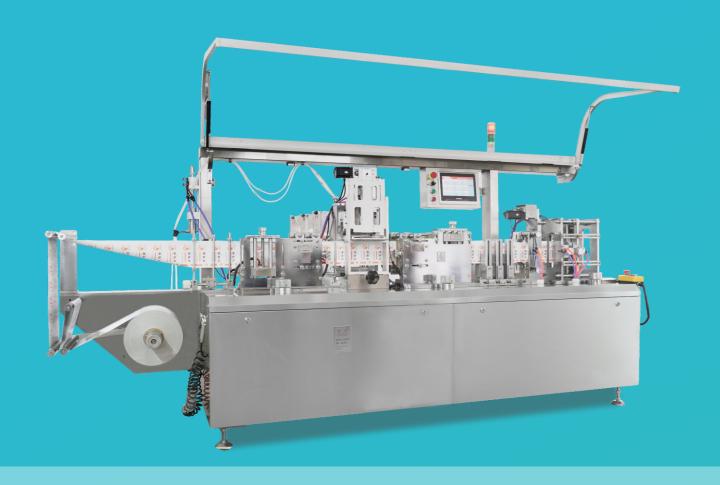








WET WIPES PACKING MACHINE



It can be used to pack wet wipes, alcohol pads, cotton pads and other similar products into three-side or four-side sealed sachets.



Model	GPD-250	GX260
Packing type	Three-side seal, four-side seal or be customized	Three-side seal, back-seal, or be customized
Packing material	PET/AL/PE, PET/AL/PE, Paper/PE/AL/PE, PET/PE, BOPP/PE/AL/PE, PET/AL/NY/PE	OPP PET CPP Matt film, pearlescent film, aluminum film, extinction film, paper film, zinc film and other composite films
Fabric material	30-80g/m² wet strength paper, non-woven fabric and so on	30-120g/m² wet strength paper, non-woven fabric, etc 30-250g/m² superfine fiber towel, cotton towel, etc.
Package size	Length: 40-140mm Width: 40-110mm	L80-400mm * W30-160mm * H1-65mm
Packing speed	110-150 sachets/min	20-370 bag & sheet / min
Folding type	W/Z folding, up to 10 vertical folding and 4 horizontal folding or customized	Z " or " W " " N " type folding, or reel-roll type
Liquid filling volume	0-5ml	Fabric watered and then pressed by robber roller for keep certain water content
Power supply	3-phase, 380V, 50/60Hz	220V or customized 50HZ 4.5-7.5KW
Machine dimension	3800*2600*1800mm	5900*1500*1900mm
Machine weight	1500kg	1500kg



HONEY SPOON FILLING AND SEALING MACHINE



Model	TD-7-1	TD-7-2	QCF-4	QCF-6			
Production capacity	1000-1200pcs/hr	1800-2000pcs/hr	3300-3600pcs/hr	5400-6000pcs/hr			
Spoon size		As custor	mer's sample				
Filling product		H	loney				
Sealing material	Film (in piece)						
Power supply	220V 50Hz 380V 50Hz				220V 50Hz		V 50Hz
Motor power	0.75k	KW	1	IKW			
Heating power	0.5KW	1KW	3-	4KW			
Air pressure	0.5-0.75MPa (air compressor be prepared by customer)						
Max. air consumption	0.45m³/min						
Machine dimension	About 1200*1100*1650mm About 3300*850*1800mm						
Net weight	800KG 1000KG						

CAPSULE POLISHING MACHINE







LFP-150A capsule polisher has triple functions including capsule polishing, lifting and sorting, with its inlet able to be connected with any type of capsule filling machine and with its outlet able to be connected with the metal testing machine, weight testing machine and appearance inspection machine, realizing online production mode of capsule filling, polishing, sorting and testing.

Model	JFP-110A	LFP-150A		
Applicable capsule models	00# 0# 1#	2# 3# 4#		
Production capacity	150000 pcs/hr	300000 pcs/h		
Power supply	220V 50Hz, Single phase			
Gross weight	69kg	105kg		
Net weight	40kg	76kg		
Compressed air	0.25m³/min— 0.3Mpa	0.3m³/min — 0.3Mpa		
Overall dimension (L*W*H)	1150*550*800 mm	740*490*1500 mm		

AUTOMATIC STRIP PACKING MACHINE



This machine is a new generation of automatic double-aluminum strip packing machine, the latest developed product of our company. This machine is novel in design and advanced in structure. It adopts PLC touch screen control system and has such advantages as high efficient, low noise and easy operation. It's equipped with material feeding structure, which applies vibrating type for arrangement, and equipped with photoelectric monitor device. This machine can control feeding material automatically, set the cutting plates optionally and finish the procedures of material conveying, material charging, sealing, imaginary line, batch no., cutting and counting automatically. In addition, it can run with high speed. This machine is suitable for packing all kinds of tablets, capsules with double-aluminum strip in pharmaceutical and health product industries, and the similar tablet-shaped electronic components in electron industry; with good sealing and light-tight effect, it greatly prolongs the quality guarantee period of product, and the finished products are easy to take.

Model	NSL-160B NSL-260B		NSL-350B	
Production capacity	≤800 tablets, granules/min	≤1100 tablets, granules/min (depends on size)	≤1500 tablets, granules/min (depends on size)	
Cutting frequency	40-80 times/min			
Compressed air	0.45 MPa ≥0.2m³/min			
Max. width of packing material	160mm	250mm	350mm	
Diameter of roll material		300mm		
Total power	2.75KW	3.75KW	4KW	
Gross weight	900KG	1100KG	1200KG	
Outline dimension (L*W*H)	1300*750*1700mm	1600*850*1900mm	1600*950*1900mm	
Package dimension (L*W*H)	1500*1000*1900mm	1800*1100*2100mm	1800*1200*2100mm	































STRIP TUBE FILLING AND SEALING MACHINE



Performance and characteristics

*The machine adopts ultrasonic technology to seal, and the sealing effect is stable and long-lasting; the lines at the sealing area are clear and not deformed;

*Manually drop the tube, and press <Start> button, and the machine will automatically seal and trim, the operation is convenient and quick;

*Independent research and development of digital automatic ultrasonic automatic frequency tracking electric box, no need to manually adjust the frequency, increase the power automatic compensation function, will not reduce the power of the machine due to long use time, can automatically adjust the power according to the tube material and size. The processing is stable, the failure rate is extremely low, and the service life is longer than ordinary electric boxes;

*Controlled by PLC touch screen, easy to operate;

*The whole machine is made of 304 stainless steel with corrosion resistance, acid and alkali resistance;

*This machine is equipped with an automatic identification system, no tube no filling and no sealing, reducing the attrition rate of the machine and mold:

Widely used for food, pharmaceutical, cosmetics, and chemical 5 in 1 tube filling and sealing.

Machine Options

Custom-made filling system for the cream product.



Model	GD-005H	GD-005			
Auto/Semi-auto	Fully auto	Semi auto			
Function	Filling an	d sealing			
Safety protection	Safety device	ce equipped			
carety processor.	Overload	protection			
Station	Servo motor driven chain type	5 Stations (rotary table)			
Tube type	Strip mono-do	se vials/tubes			
Tube material	PP/PE plastic composite pip	e/Aluminum plastic tube,etc			
Automatic identification	No tube-no filli	ng&no sealing			
Fault alarm	Failure warning feature				
Frequency	20 I	кНz			
Power	2.6 KW 2,6 кВт	2.2 KW 2,2 кВт			
Power supply	AC220'	V/110V			
Filling system	5 heads valveless ceramic plunger pump (liquid)				
	5 heads rotary valve ceramic plunger pump (paste)				
Filling range	0.3-10ml valveless ce	eramic plunger pump			
rilling range	1-10ml rotary valve o	eramic plunger pump			
Filling error	±0.02g	±0.05g			
Capacity	15-20strips/min	10-13strips/min			
Tube diameter	1-7 strips/leng	th 50-140mm			
Tube height	50-150mm				
Working pressure	0.6MPa				
Air comsumption	0.4m³/min				
Dimension (mm)	1300*1300*1950 1300*1000*1550				
N.W/G.W (Kg)	420	330			

COUNTING MACHINE

This machine is an intelligent and high-precision automatic capsule counting machine, the newly developed and patented capsule counting device can automatically realize the precise counting and fill to any number (odd number, even number, prime number). It is new in design, small in size, and low in noise when running, which is the ideal counting and bottle-filling device for middle and small-sized pharmaceutical enterprises, healthcare product companies, and preparation laboratories.







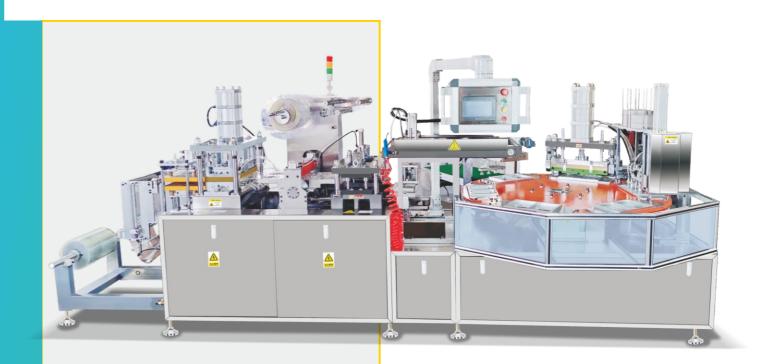


Main technical parameters

- 1) Vertical pathway compensated type counting (patented technology), the counting precision can reach up to 100%, which avoids the big error for counting precision in the traditional vibrating or rotating type.
- 2) Vertical pathway compensated type counting (patented technology), it can realize the set of any capsule bottle filling number without changing the mold for the same size capsule, so it is very convenient and fast.
- 3) The main machine adopts frequency control, which can realize soft start speed adjusting, it is reliable and steady and can bare pretty big starting torque.
- 4) The bottle conveying is the conveyor type, which reserves the connector for the customer in the future to the auxiliary equipment (such as bottle unscramble, capping machine, etc).
- 5) Theoptical control technology automatically inspects if there is a bottle lacking or bottle turnover, which helps to reduce capsule wasting by auto alarming.
- 6) All the molds adopts a cylindrical pin design, it only needs around 5 minutes to change the mold among different capsule size, which is fast and convenient.
- 7) All the parts in contact with medicine adopt SS304, which meets with GMP strictly.

Model	GD-8	GD-16	GD-24	GD-2A	
Size (mm)	1360*1250*1600	1760*1650*1650	1666*2000*1770	440*370*580	
Voltage		110-220V	50-60HZ		
Weight	300Kg	1100kg	1050KG	20KG	
Power	600W	1.5KW	1.6KW	100W	
Capacity	10~30 bottles/min	50~100 bottles/min	80~120 bottles/min	500-1500 pcs/min	
1#capsule remark	100pcs/bottle,	100pcs/bottle,	100pcs/bottle,	Around 550pcs/min.	
Round-tablet 11*7remark	Around 1000-3000pcs/min	Around 8000pcs/min	Around 12000pcs/min.	Around 800pcs/min.	
Capsule size	#000 - #5 capsule				
Round tablet/pills size	Diameter 6-20mm, thickness ≥4mm. It can be customized if the tablet size is larger.				
Oval strip tablet size		#000 - #5, thic	ckness ≥4mm		

BLISTER CARD PACKING MACHINE



Widely used in food, medicine, hardware, and other industries. production.

Function

- 1. CAM driven, servo traction, reasonable structure, simple operation;
- 2. PLC control, adjustable frequency speed, lower noise, upgrade machine stability;
- 3. Photoelectric control, automatic detection, and improve operation safety;
- 4. Mold adopts a modular positioning design, easy to be changed quickly.:
- 5. Stainless protection cover, easy to clean, upgrade product level.





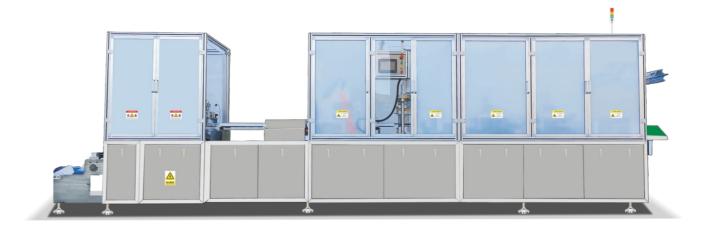






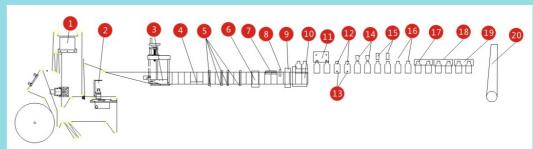


Model	AC-330	AC-400	AC-600	
Production speed	8-14 cycles/min	15-20 cycles/min 15-18 cycles/		
Stroke range	30mm-300mm	30mm-220mm	30mm-260mm	
Max. forming area	315*250mm	370*170/370*230mm	550*170/550*230mm	
Max. standard forming depth	25/40mm	38/5	0mm	
Forming heating power	3kw(*2)	3.5kw(*2)		
Heat sealing power	3.5kw	4.5kw		
Total power	13kw	13.5kw	13kw	
Air consumption		Consumption ≥0.5 m³/min		
Air pressure		0.5-0.8MPa		
Packing material (PVC/PET)	Thickness 0.15-0.5mm			
Max. paper dimension	320*255mm	400*250/170*500mm 600*250/600*300mm		
Total weight	3500kg	2500kg		
Machine dimension (L*W*H)	6200*800*1880mm	4600*1550*1850mm	6200*800*1880mm	



HORIZONTAL SACHET FORMING FILLING AND SEALING PACKAGING MACHINE

CTS-2000



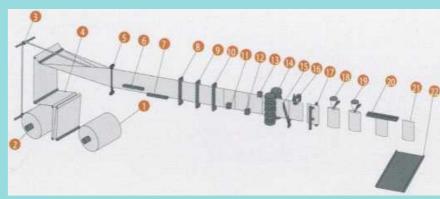


1	Film releasing	11	Separate bag mechanism
2	Bottom hole punching	12	Upper bag opening mechanism
3	Bag forming	13	Lower bag opening mechanism
4	Bottom seal	14	Air flushing
5	Vertical seal	15	Unloading device
6	Vertical sealing cooling mechanism	16	Pouch stretching
7	Silver edge cutting mechanism	17	Top sealing mechanism
8	Film testing mechanism	18	Texture seal mechanism
9	Servo advance	19	Cooling top seal
10	Bag forming mechanism	20	Trolley conveying device

Technical characteristics

- 1)Adopting PLC control, with fast packing speed, smooth running, low failure rate and low energy consumption.
- 2) With independent material filling device, the machine can effectively avoid backlash and splash of fine powder materials, to ensure high sealing quality.
- 3)Three-sided sealing and four-sided sealing are optional, making sachets flat and beautiful in appearance.
- 4) Different filling mechanisms can packaging different materials, such as powder, liquid, granule and sauce.

CTS-130



1	Film releasing	9	Traction
2	Packing film forming	10	Sachet opening
3	Packing film guide	11	Discharging 1
4	Color code detection	12	Discharging 2
5	Bottom sealing	13	Top sealing
6	Vertical sealing	14	Finished product
7	Easy tear	15	Finished product output
8	Punching		

Model	CTS-130	CTS-220	CTS-220T	CTS-180	CTS-2000/2600
Sachet size	60mm*75mm (Min) 140mm*180mm (Max)	50mm*80mm (Min.) 180mm*225mm (Max.)	50mm*80mm (Min. <mark>)</mark> 90mm*180mm (Max.)	50mm*80mm (Min.) 180mm*225mm (Max.)	60mm*100mm (Min.) 200mm*250mm (Max.)
Filling capacity	160ML	400ml	100ml	400ml	100-1000ml
Packaging capacity	40-80 sachets/min	40-80 sachets/min	100-160 sachets/mi <mark>n</mark>	40-80 sachets/min	60-120 sachets/min
Power	4.5Kw	4.5Kw	4.5kw	4.5kw	8kw
Air consumption	300 NL./min	200 NL./min	200 NL./min	200 NL./min	120 NL./min
Dimension	2850*940*1450mm	3500*970*1500mm	3500*970*1500mm	3500*970*1500mm	6600*1100*2800mm
Weight	800Kg	1160kg	1160kg	1160kg	3000kg
Function	Three-sided sealing, four-sided sealing	Three-sided sealing, four-sided sealing	Three-sided sealin <mark>g,</mark> four-sided sealing, united <mark>sachets</mark>	Three-sided sealing, four-sided sealing	Pouch giving/Roll film make pouch /Special-shaped doypack





FULLY AUTOMATIC PRE-MADE DOYPACK WITH NOZZLE FILLING AND CAPPING MACHINE





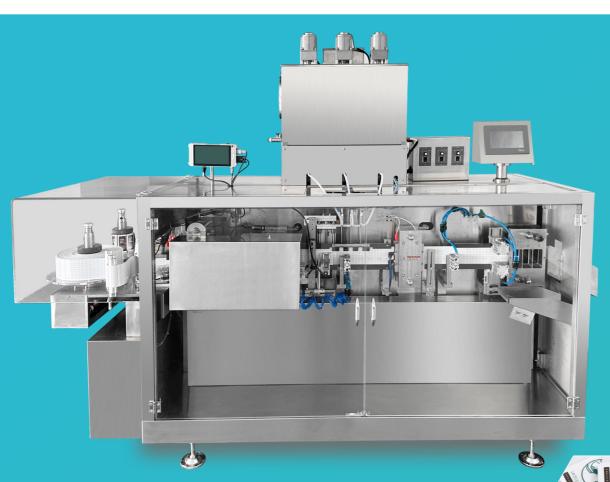
Model	GDL20	GDL02	
Filling volume(g)	50∼5000g(r)	50∼3000g(r)	
Packaging speed	10∼70pouchs/min	10∼35pouchs/min	
Filling pump	Gear pump, piston pump, rotor pump,etc;		
Packaging capacity range	±0.5%		
Power	220V/50HZ, 3.2KW	220V/50HZ, 2KW	
Oxygen consumption	0.5-0.8Mpa, 1.5m³/min	0.5-0.8Mpa, 0.5m³/min	
Equipment size	1200x1200x1500	800x900x700	
Weight	270Kg	60kg	
Function	Manual pouch hanging-automatic filling-manual cap feed vibration cap feed-automatic capping;		





ONE HAND OPEN CARD TYPE EASY-SNAP PACKING MACHINE

AUTOMATIC CASE PACKER/BOX PACKING MACHINE PRODUCTION LINE



Application:

This machine is use for food, pharmaceutical, cosmetics, chemical products packing, such as honey/olive oil/cream gel for acne/chemical reagent/oral liquid/sessential oil/hand sanitizer/liquid soap/

This is a new way of packaging one hand Folding And Extruding It has many advantages, such as environmental protection, portability, ease of use and so on.

Easy-Snap will simplify your life. With the Easy-Snap packet, you can carry any liquid or powdered product with you at all times, and use it in the easiest, most practical way. The packets are good-looking, convenient, hygienic and waste-preventing.

Model	GDS-118P5
Max. package size	100 * 120mm
Packing material	PET/AL, PET/PE, PS/PE
Filling volume	0.5-20ml
Total power	3.2kw
Voltage	220-380V
Punching frequency	25 times/min
Air consumption	120-160L/min
Machine weight	1000kg
Package dimension (L*W*H)	2300*850*1800mm
After woodBox packaging	2500*1200*2000mm / 1200kg



A special design to solve the request to pack the products in cases. This machine including case opening device, which realizes the whole functions of case erecting, case packing and case sealing. and can be customized according to customer requirements.

Characteristics:

1. Multi-functions, including goods sorter, case erector, case filler and case sealer, goods stacker etc.

2. Wide application, suitable for sachet, carton, bottle, folding products etc. to pack into the cases as single layer or multi-layer.

The packing line automatically stacks, erects, loads, seals and palletizes cases of various specifications according to the required numbers of products to be packed. The robot arm (optional) picks and places the product into the case after stacking. The case will be sealed after loading, and labeling, scanning ,robot palletizing, Automatic film winding package.

The production line integrates and streamlines the endof-line packaging process, featuring high degree of automation, intuitive operation and small footprint, well accepted as a typical product of advanced technology integrating end-of-line functions in China.

Mod	е	GDC60/400	GDC100/450	GDC180/500	GDC260/550	GDC320/600	GDC450/800
Box size	Max	600*450*400mm	600*450*400mm	600*500*400mm	500*400*400mm	600*550*500mm	800*600*500mm
BOX SIZE	Min	250*200*200mm	300*200*200mm	300*250*200mm	220*120*100mm	180*150*100mm	200*200*100mm
Designed ca	pacity	240 boxes/h	900 boxes/h	600 boxes/h	900 boxes/h	480 boxes/h	10 boxes/h
Actual cap	acity	≤ 10boxes/min	≤ 10boxes/min	≤15boxes/min	≤ 24boxes/min	≤ 10boxes/min	≤ 4boxes/min
Packing sta	ation	Single or double packing station, customized as required					
Power sup	oply			AC 380/3P/50Hz 7	.5kw or customized		
Air supp	ly	0.6MPa / ≤ 1m³/H or customized					
Overall dime	ension	From 10m³(all-in-one machine) to 30m³ for all packing line, or separate accounting for non-standard customization					
Weight	t	About 1500kg (all-in-one machine) to 4000kg for all machine, or separate accounting for non-standard customization					
Main mate	erial			Carbon steel, 304 sta	inless steel, aluminum	ı	

AUTOMATIC PLASTIC THERMOFORMING MACHINE









The machine is an automatic multi-station blister/plastic tray thermoforming machine with positive and negative pressures, including 450S/450A/500A and other models, which is designed by our company according to years of technology accumulation and different customer requirements.

In particular, PP-500 is innovative machines independently developed by our company with obtained invention patents. The machines effectively solve the problems of large production investment, complex workflow process, poor product hygiene and low security of plastic products such as PP/PS/PET/PVC/PLA, etc.

These machines are capable to complete forming, piercing, punching and other processes synchronously, to quickly and efficiently produce products with plastic package. So they are very suitable for packaging food, medicine, hardware, gifts and other products. such as food tray, cake/fruit box, cup/bowl caps, equipment tray/box, etc.

Moreover, the machine is stable, beautiful and cost-effective, widely selected by customers in domestic and abroad!

Key features:

- 1) Compact structure, stable operation, easy operation and convenient maintenance;
- 2) Adopts servo adjustment and touch screen;
- 3) Adjustable moving stroke, and simple to replace molds;









	4111	センスルーリント はいしょく	A CONTRACTOR OF THE PARTY OF TH	
Model	GPP500	GP550A	GP450A	GP450S
Application	Widely used in PET, F daily necessiti		r plastic covers in me ware and other produ	
Speed	PP 10-13times/min PVC/PET 12-20 times/min		15-35times/min	
Materials	PP, PVC, PET, HIPS, PLA, GPPS	ı	PVC/PET/HIPS/PLA	
Total Power	40KW	6K	4KW	
Cooling mold	Tap or re	cycled water, with 60	L/hour consumption	
Air consumption	>	· 0.9m³/Min		>0.6m³/Min
Max. forming width		300mm		150mm
Max. forming Length	450mm	550mm	450mm	450mm
Max. forming depth	50mm	46mm	46mm	
Overall dimension	5300*1500*1900	4000X1300X1900	4000X1200X1900	2600X1100X1700
Machine weight	About 3200kg	2800kg	2200kg	1500kg

SOFTGEL ENCAPSULATION MACHINE



APPLICATION:

Softgel encapsulation machine can quantificationally inject the oil, suspenion and pasty materials into the capsule to form all kinds of softgel encapsulation with different size, shape and color. Because of the merits of high speed disintegration, easy to oral, hard to oxygenation, easy to store and take, the softgel encapsulation is welcomed by more and more coustomers.

Owing to the high productivity, charging exactly, quality stabilization, high finished products rate, it is favoured by more and more manufacturers and widely used in the fields of medicine, health products, cosmetic, paintball and so on.

This product has passed the certification of EU, adopted two items of patent technology in manucturing with exquisite workmanship.

FEATURES:

Strong production capacity of 370 millon capsules (take the GDS220 for example, 8# oval shape of 3rpm speed, 24 hours/day, 300 days/year).

Medicine injecting part adopts advanced linearity driving system, ensure that the filling precision is less than 2%.

Advanced waler cooling system avoids the pollution by air.

Capsule package rate is up to 98%.

The lubrication of gelatin film adopts the advanced technology in order to minimize oil consumption.

If the ribbon is lubricated with vegetable oil, the produced capsules needn't to be washed (if no

High quality capsule delivery device adopts food-grade conveyor belt authorized by American FDA, without poison and adhibition, and easy to

Optimized designed mould is made of high quality aviation alloy with high precision numerical control process to ensure the mould's service life.

Advanced process and assembly technology make the whole machine quality stabilization, high working rate, and then producing soft capsules of good quality.











Adopts automatic gelatin feeding and filling system to reduce labor intensity and improve the working environment, which accords with the requirement of GMP.

The liquid level in the gelatin box is consistent automatically, the centigrade mater displays the film thickness, which is easy to adjust accurately.

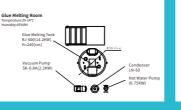
The power of main motor is 1.5KW, which can avoid insufficient driving power when filling the heavy thick materials. (Take 200 model for example).

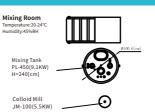
Adopts the non-poisonous malerials to human for the parts contact with liquid and gelatin, and without dropping into the medicine liquid, for easy operation and convenient maintenance. passed the certification of EU, adopted two items of patent technology in manucturing with exquisite workmanship.

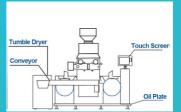




	minims: 2.5 -5.0	minims: 5.0 - 6.0	minims: 6.0 - 8.0	minims: 15.0 -17.0
	cc: 0.514 - 0.308	cc: 0.308 - 0.370	cc: 0.370 - 0.493	cc: 0.924 - 1.047
栓剂 SUPPOSITORY	6 Suppository	10 Suppository	40 Suppository	80 Suppository
	minims: 5.0 -6.0	minims: 7.0 - 10.0	minims: 30.0 - 40.0	minims: 62.0 -80.0
	cc: 0.308 - 0.370	cc: 0.430 - 0.620	cc: 1.850 - 2.460	cc: 3.819 - 4.928









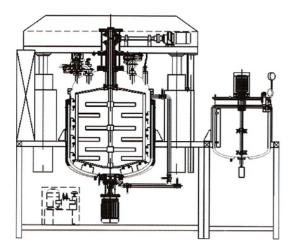
		, -			Д'		
Model	GDS-80	GDS-120	GDS-130	GDS-200	GDS-300	GDS-80 (Paintball)	GDS-250 (Paintball)
Roller die rated speed				0∼5r/min			
Pillar Quantity	4 Pcs	8 Pcs	8 Pcs	12 Pcs	24 Pcs	4 Pcs	14Pcs
Roller die size	Ф64×80mm	Φ72×110mm	Ф115×125mm	Ф125x200mm	Ф150x300mm	Ф64x75mm	Ф150x250mm
Single piston feeding volume	0.2∼1.2ml	0.2∼1ml	0-1.5ml	0.75∼2ml	0.75∼2ml	0-3ml	0.75-2.7mL
Power supply	220V 50Hz	380V 50Hz	220V 50HZ	380V 50Hz	380V 50Hz	220V 50Hz	380V 50Hz
Total power	2kw	6.5kw	3kw	7.5kw	11.5kw	2kw	12kw
Noise				<75dBA			
Dimension	900X700X1600	1600X1000X1650	1550X950X1850	2100X1100X1800	2200X1275X1900	1250X700X1600	2050×1200×1850
Net weight	450kg	1100kg	700kg	1840kg	2189kg	450kg	1980kg

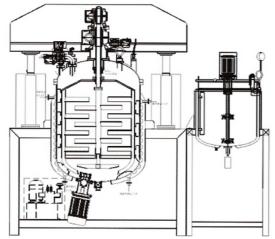
VACUUM EMULSIFYING MIXER



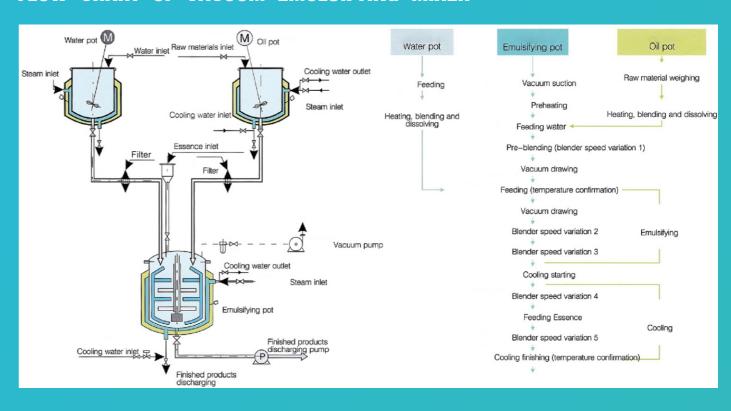
USE

This equipment is suitable for emulsifying cream, ointment, toothpaste, lotion, shampoo, cosmetic product and so on.





FLOW CHART OF VACUUM EMULSIFYING MIXER



Model	Volume	Emulsify motor		Mixer powe		Lengt	Widthme	Height	Max Height
CBZRJ-10	10L	1.1KW	0-3500rpm/min	0.37KW	0-60r/m	1200	600	1300	1700
CBZRJ-20	20L	1.5KW	0-3500rpm/min	0.75KW	0-60r/m	1500	800	1500	2050
CBZRJ-50	50L	3KW	0-3500rpm/min	0.75KW	0-60r/m	2750	2100	1900	2600
CBZRJ-100	100L	3KW	0-3500rpm/min	1.5KW	0-60r/m	2800	2150	2100	2800
CBZRJ-200	200L	4KW	0-3500rpm/min	1.5KW	0-60r/m	2850	2200	2200	3100
CBZRJ-300	300L	5KW	0-3500rpm/min	2.2KW	0-60r/m	3000	2500	2500	3550
CBZRJ-500	500L	7.5KW	0-3500rpm/min	2.2KW	0-60r/m	3800	2700	2700	3950
CBZRJ-750	750L	11KW	0-3500rpm/min	3.7KW	0-60r/m	3900	2900	2900	4400
CBZRJ-1000	1000L	11KW	0-3500rpm/min	3.7KW	0-60r/m	3900	3150	3150	4550
CBZRJ-2000	2000L	22KW	0-3500rpm/min	7.5KW	0-60r/m	4850	3600	3600	

HIGH EFFICIENCY COATING MACHINE



APPLICATION:

The BG coating machine is mainly used in medicine and food industries. Meeting GMP requirements, it is a kind of mechanically and electrically integrated coating equipment with high efficiency, energy conservation, good safety and good cleanliness for organic film coating, water soluble coating, dripping pill coating, sugar coating, chocolate and candy coating of tablets, pills and candies.

PRINCIPLE

Under the rotation action of the coating roller, the tablets or pills to be coated make continuous movement in the roller. The peristaltic pump conveys the coating media to the spray gun for spraying them on the surfaces of the tablets or pills to be coated. Under negative pressure, the inlet air handling unit supplies clean hot air to the tablet bed according to the set procedures and process parameters to dry the tablets or pills. The hot air is discharged from the outlet air handing unit at the bottom of the layer of tablets or pills, so that the coating media sprayed on the tablets or pills rapidly form solid, dense, flat and smooth film to complete the coating operation.

FEATURES

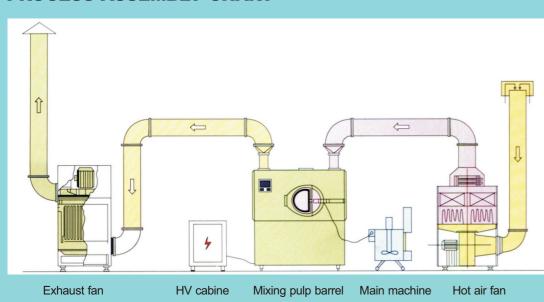
- ◆The control system consisting of PLC and HMI is designed reasonably with flexible programming, meeting various pharmaceutical process requirements with reliable work and stable performance and conforming to GMP requirements.
- deanliness for organic film coating, water soluble coating, dripping pill coating, sugar coating, chocolate and candy coating of tablets, pills and candies. ♦ Under the action of the streamlined diversion plate mixer, the tablets or pills turn smoothly and exchange frequently, so that the occurrence of the tablets or pills dropping from high positions and colliding is eliminated, broken edges are avoided and the rate of finished products is enhanced. The upper surf ace of the diversion plate is narrow, avoiding the adhesion of dressing onto its surface, saving the dressing and improving medicine quality.
 - ◆The return flow pipe is canceled in the constant pressure variable peristaltic pump. The rotation radius of the roller changes with the change of pressure, so that the output paste and paste volume are automatically balanced, the atomizing effect is stabilized, the spray system is optimized, the blocking of the spray gun is avoided, the dressing is saved. In addition, it is easy to clean without any dead corners.
 - ◆It adopts the new type spray gun with even atomizing, large spraying area, adjustable direction. The nozzle is not affected by the loading volume, the device for cleaning the blocked spray gun can ensure continuous coating, shorten coating time and save coating dressing.
 - ◆Quantitative display and control of technical parameters are realized. SOP operation can be compiled to guide the operation by using quantitative indicators and ensure the consistency of quality of each batch of medicines, fully meeting GMP requirements.

Your company can customize products according to special requirements of users.

You will not be notified of any changes in advance.

Model/Модель		BG-5	BG-10	BG-40	BG-80	BG-150	BG-250	BG-400	BG-600	
Maximum capacity(kg)		5	10	40	80	150	250	400	600	
Roller speed adjustment range(rpm)		2-25	2-25	2-20	2-20	2-18	2-15	2-15	2-12	
Main m	nachine o	utline dimensions(L×W×H)(mm)	900×800×1700	900×840×1800	1080×900×2000	1210×1000×2100	1600×1260×2300	2000×1550×2550	2050×1680×2650	2400×2020×2650
	Coa	ting roller diameter	ф400	ф580	ф820	ф940	ф1200	ф1500	ф1580	
	Main ma	achine motor power(kw)	0.55	0.55	1.1	1.5	2.2	3	4	5.5
	Hot air c	abinet motor power(kw)	0.37	0.37	0.75	1.1	1.5	3	3	5.5
Exhaust cabinet motor power(kw)		cabinet motor power(kw)	0 . 75	0.75	2.2	3	5.5	7.5	7.5	11
Exl	haust cab	inet air supply volume(m³h)	800	900	2500	2700	3600	4200	5000	6500
Н	lot air tem	perature control range(°C)					< 800			
Power supp	Power supply Three-phase five-wire		6kw,380V	7kw,380V	12kw,380V	15kw,380V	18kw,380V	25kw,380V	32kw,380V	45kw,380V
Clean compressed air(Mpa)		>0.40	>0.40	>0.40	>0.40	>0.50	>0.80	>0.80	>1.20	
Compressed air consumption(m³/min)		0.2	0.2	0.3	0.4	0.6	0.8	1.2	1.2	
Steam pressure(Mpa)				>0.6	>0.6	>0.6	>0.6	>1.14	>1.0	
Steam Steam consumption(Kg/h)				40	60	80	110	130	200	
	Ste	am pipe diameter			G1"	G1"	G1"	G1.2"	G1.2"	G2"
Heat insulation barrel electric heating power(Kw)				1kw	2kw	2kw	4kW	4kw	6kw	

PROCESS ASSEMBLY CHART



VERSATILE FILLING AND CAPPING LINE















This is a new product developed by our company to meet the market demands of users. It is mainly used for glass and plastic bottles such as round, square or special-shaped bottles & Jar & Tube & XiLin & Ampoule & Vial ,etc. By introducing advanced foreign technologies, this machine is economical, practical and occupies a small area. It is widely used in the liquid packaging of industries such as pharmaceuticals, pesticides, chemicals, food, and cosmetics. The machine fully reflects the advanced, reliable and reasonable design concept required by GMP for pharmaceutical equipment, focuses on people-oriented, and reduces human factors in the use of equipment. Automatic filling, swing arm capping, pre-spinning, and bottle discharge adopt a linkage design, and all actions are completed synchronously.

Operation Principle

Bottle Placement: automatically to place the containers into the mold.

Filling System: The paste quantitative filling method is adopted.

Inner Plug Insertion: automatically insert the inner plug/stopper into the bottle mouth.

Cylinder Plug Pressing: the cylinder automatically presses the inner plug into the bottle mouth.Outer Cap Placement: automatic place the outer cap on the bottle mouth.

Torque Capping: The motor controls the torque and rotation speed to ensure that the cap is tightly screwed and the tightness is consistent.

Outer Cover Placement: After the outer cap is placed automatically, the cylinder presses the cover.

Product Output: Finally, the capped bottles are taken out of the mold by the manipulator and placed on the conveyor helt.





Model	GD-50	GD-80	GD-100			
Machine dimension(L×W×H)	1700 × 1300 × 1350 mm	2400*2000*1900mm	7000*1700*1000mm			
Machine weight	600KG	1000KG	2000KG			
Suitable bottle diameter		10~100 mm				
Bottle sorting	bottleturntable,bottle unscrambler					
Power supply	AC220V-380V ;50Hz-60Hz					
Total Power	1.5KW	2KW	3KW			
Compressed air	1-3m³/h0.4-0.8Mpa or customized					
Filling volume		1-1000ml customized				
Production capacity	40-50bottles/min	60-80bottles/min	60~120 bottles/min			

AUTOMATIC CONDOM PACKING MACHINE





Condom packing machine is a kind of mechatronics automatic packaging machine, which can automatically complete the processes of condom feeding with oil, film feeding, condom clamping, heat sealing and cutting. The main drive adopts motor stepless speed regulation, and cam controls the action of each actuator. The machine has high control precision, compact structure, stable performance, reliable performance and easy operation.

Wide Application Range

Common package shape: square, round, heart and other special or uncalibrated shapes.

Technical Parameters

Model	GBC-II Single row	GCP-130 Double row	GBF-II Three row	GCP-260 Four row				
Cutting frequency	40-80times/min	40-80times/min 10-50times/min						
Production capacity	2400-4800 sachets / h	5000-6500 sachets / h	7200-10800 sachets / h	9600-12000 sachets / h				
Sachet Shape	Rectangular, square	Round, square,special shape	square	Round, square,special shape				
Stroke	30-56mm	55-63mm(customized)	58mm	55-63mm(customized)				
Standard size	30×70 mm / 56×56 mm	n 60×60mm(customized) 55×58		60×60mm(customized)				
Air pressure	0.5-0.6MPa							
Air flow	≥0.1m³/min	≥0.15m³/min	≥0.1m³/min	≥0.25m³/min				
Total power supply	380V/50HZ,1.3Kw	220V/50Hz, 2.6KW	380V/50HZ,2.2Kw	220V/50Hz, 3.5KW				
Main motor power	0.5KW	0.75KW	0.4KW	0.75KW				
PTP aluminum foil size	0.02~0.035×130mm							
Machine dimension	1800×850×1100mm	2300×680×1410mm	1320×1000×1400mm	2950×800×1450mm				
Machine weight	460kg	600kg	600kg	800kg				

SS316L FEED SPOON



Model	Total Length	Handle Length	Spoon Body Width	Opening Width	Spoon Body Length
Size 1	19cm	9cm	5.8cm	3.8cm	9.5cm
Size 2	20.5cm	8.8cm	6.7cm	4cm	12cm
Size 3	24cm	10.8cm	8.8cm	5.5cm	14cm
Size 4	27cm	10.8cm	10cm	6cm	16.5cm
Size 5	29.5cm	10.8cm	10.4cm	6.5cm	18cm
Size 6	31cm	11cm	12.2cm	8cm	20cm
Size 7	34cm	11cm	14cm	7cm	23cm



