

www.softgel.kr



Innovation for Softgel Manufacturing System

Ver. English

Satisfactory after-sales
service to customers!



CHANGSUNG
CVC TECHNOLOGIES GROUP

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Changsung is providing not only machines and equipment but also technology for high value products.

Company History

2020's

Dec 2022 Sales achieved to 250 machines (Encap.+ Dryer)

2010's

Dec 2019 Developed Capsule Inspection & Capsule Printing machine

Dec 2019 Developed 780SR machine

Jan 2018 Developed 380SR machine

July 2017 Developed 770SR machine

May 2017 Developed 880SR machine

May 2015 A prize for Good parts & materials

Dec 2014 Registration of Korean Patent for vegetable materials

Nov 2014 Registration of Korean Patent for gel-reclaim system (GRS)

May 2014 Developed servo R&D machine (SRD)

Dec 2013 A prize for excellent venture activity

Nov 2013 A prize for employee-friendly company

Sep 2013 A prize for Global Growth Ladder and a prize for a company people want to work for

Aug 2013 Received a certificate for Good Risky Assessment and Quality Control System

Sep 2012 Registration of clean plant

2000's

Dec 2009 Completion of new plant

Oct 2009 Set up of R&D Center

Aug 2009 Registration of R&D Center

Dec 2008 Acquisition of UL certificate

Aug 2008 Company name change to changsung softgel system

Jun 2006 Developed vegetable machine, CS-OLUSCAP

Jan 2006 Developed pharmaceutical softgel machine, CS-500R

Jun 2003 Acquisition of CE Certificate

Feb 2002 Acquisition of Certificate for good quality control system

July 2000 Developed auto sorter

1990's

Dec 1993 Developed CS-J1-300R

May 1985 Developed rotary type mass production machine

Sep 1979 Developed blister packing machine

Jun 1972 Developed flat type softgel machine

May 1972 Established changsung Auto Machinery Company



Servo Softgel Machine

1. Animal Softgel for High Output
2. Providing an additional Ethernet port and address mapping service to meet customer's SCADA communication system
3. Easy to change the filling volume on the touch screen (EFA)
4. Auto Gel Thickness control system included (AGT)
5. Linear motor type medicine pump drive

880SR

SPECIFICATION

Dimension: 2,409(L) x 1,338(W) x 2,362(H) mm

Weight: 2,200 KG

Electric Power: AC 220, 380, 440 V / 50, 60Hz / 3 Ph

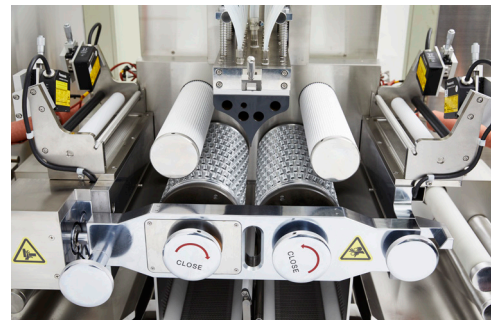
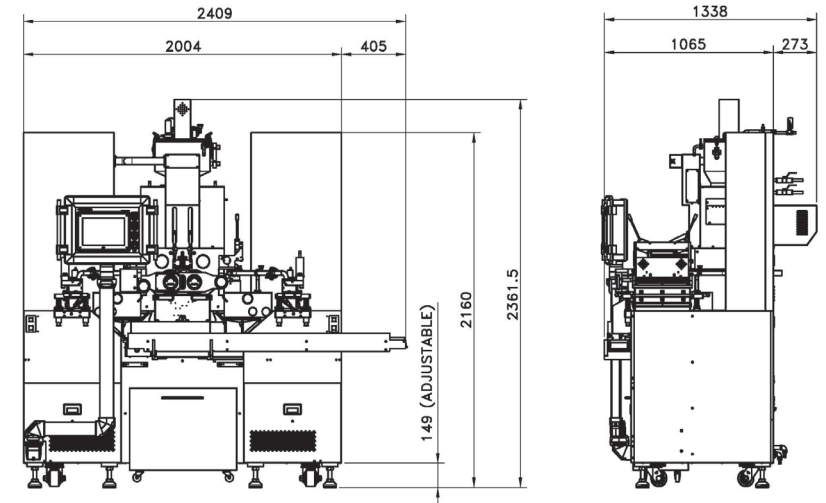
Power Consumption: 28 kW

Die Roll Speed: 6 rpm

Compressed Air: 5 kg f/cm²

Die Roll Size: Ø150 x 320 mm

Productivity: AVG. 110,000 caps/hr at 6 rpm (Ob#20)



Die Roll Housing



AGT



Wide Wedge



Servo Softgel Machine

1. High productivity output for vegetable soft capsules(3rpm ↑)
2. Providing an additional Ethernet port and address mapping service to meet customer's SCADA communication system
3. Easy to change the filling volume on the touch screen (EFA)
4. Auto Gel Thickness control system included (AGT)
5. Easy attachable capsule striper

780SR

SPECIFICATION

Dimension: 2,636(L) x 1,196(W) x 2,418(H) mm

Weight: 1,800 KG

Electric Power: AC 220, 380, 440 V / 50, 60Hz / 3 Ph

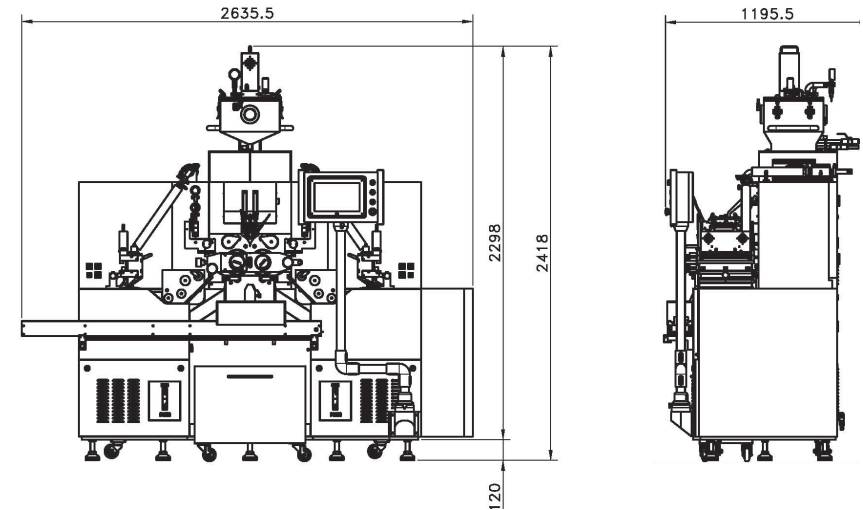
Power Consumption: 19 kW

Die Roll Speed: 5 rpm

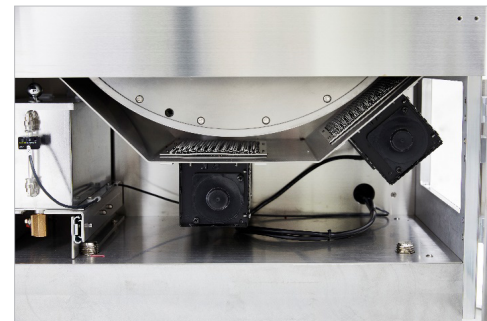
Compressed Air: 5 kg f/cm²

Die Roll Size: Ø150 x 290 mm

Productivity: AVG. 81,600 caps/hr at 5 rpm (Ob#20)



Medicine Filling Pump



Casting Drum



Ribbon extruder



Servo Softgel Machine

1. Pharmaceutical & Nutraceutical
2. Providing an additional Ethernet port and address mapping service to meet customer's SCADA communication system
3. Easy to change the filling volume on the touch screen (EFA)
4. Auto Gel Thickness control system included (AGT)

770SR

SPECIFICATION

Dimension: 2,328(L) x 1,171(W) x 2,353(H)mm

Weight: : 2,100 KG

Electric Power: AC 220, 380, 440 V / 50,60 Hz / 3 Ph

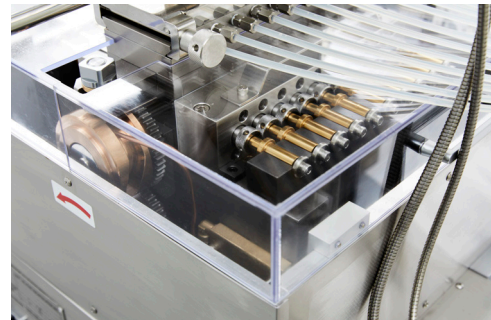
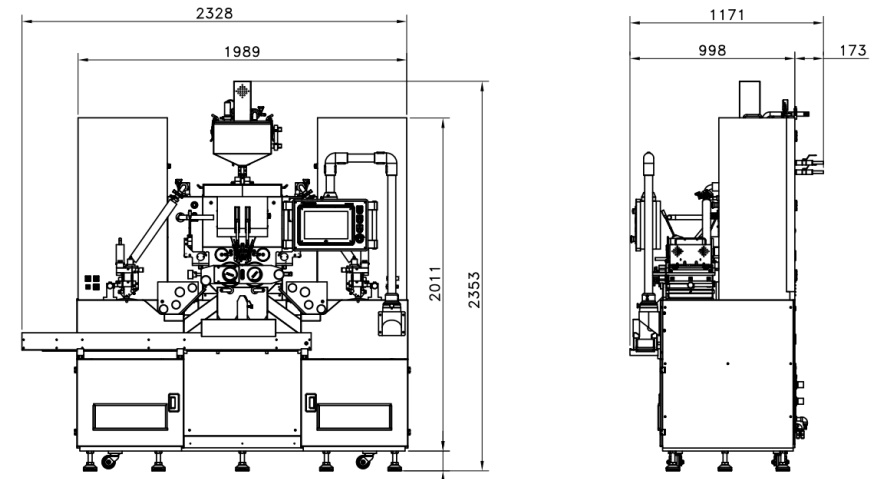
Power Consumption: 23kW

Die Roll Speed: 5 rpm

Compressed Air: 5 kg f/cm²

Die Roll Size: Ø150 x 250 mm

Productivity: AVG. 71,400 caps/hr at 5 rpm (Ob#20)



Medicine Filling Pump



Oil Roller



Pinch Valve



Softgel Machine

1. Pharmaceutical & Nutraceutical
2. Easy maintenance
3. Anodizing aluminum and stainless steel frame
4. Contact part with stainless steel 316 or 304
5. Complying with GMP for various safety standard
6. Digital die roll pressure indicator (Load- cell)
7. Metering Pump
8. Complying with TIR securely



500R

SPECIFICATION

Dimension: 2,714(L) x 1,166(W) x 2,292(H) mm

Weight: 1,800 KG

Electric Power: AC 220, 380, 440 V / 50,60 Hz / 3 Ph

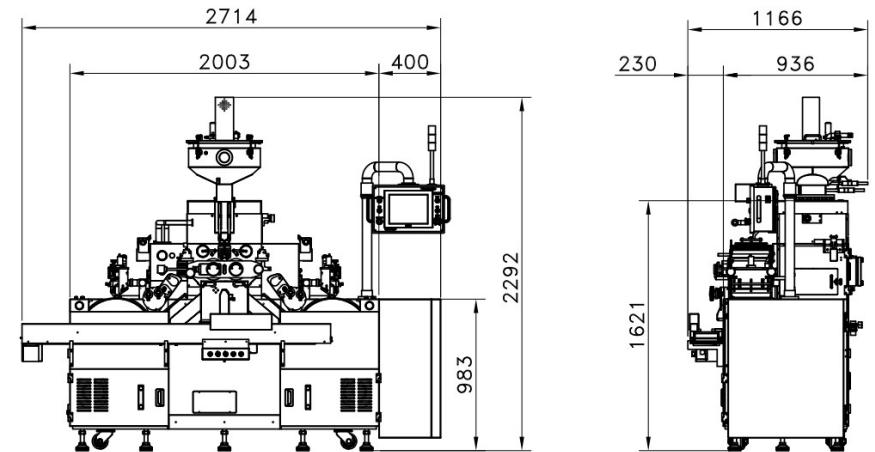
Power Consumption: 21 kW

Die Roll Speed: 5 rpm

Compressed Air: 5 kg f/cm²

Die Roll Size: Ø150 x 250 mm

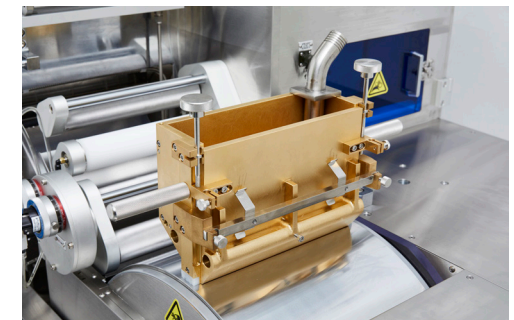
Productivity: AVG. 64,600 caps/hr at 4.5 rpm (Ob#20)



Medicine Filling Adjustable Knob



Metering Pump



Spreader Box



Servo Softgel Machine

1. Pharmaceutical & Nutraceutical
2. cGMP & Pharmaceutical Softgel production purpose
3. Providing an additional Ethernet port and address mapping service to meet customer's SCADA communication system
4. Driven by servo motors
5. Easy attachable capsule striper

380SR

SPECIFICATION

Dimension: 2,018(L) × 1,204(W) × 2,080(H) mm

Weight: 1,300 KG

Electric Power: AC 220, 380, 440 V / 50,60 Hz / 3 Ph

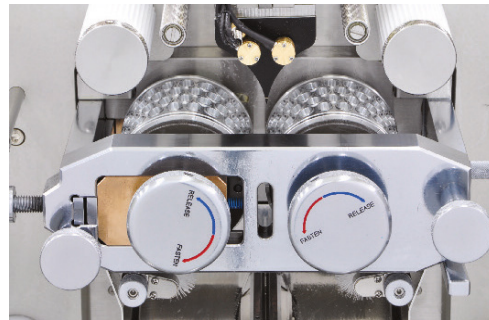
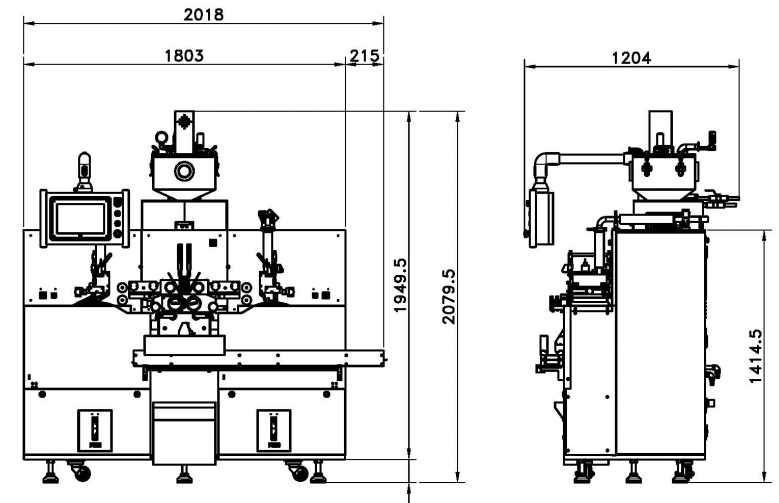
Power Consumption: 20 kW

Die Roll Speed: 4 rpm

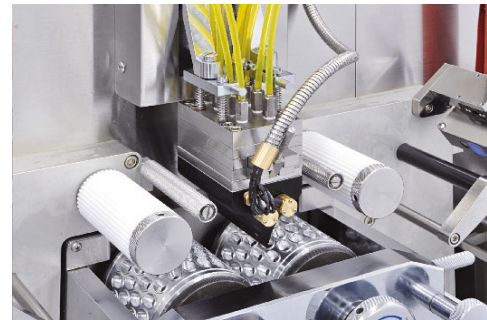
Compressed Air: 5 kg f/cm²

Die Roll Size: Ø103 x 180 mm

Productivity: AVG. 30,000 caps/hr at 4 rpm (Ob#20)



Die Roll Housing



Wedge



Touch Screen



Servo Softgel R&D machine

1. Anodizing aluminum and stainless steel
2. Driven by servo motors
3. Easy to change the filling volume on the touch screen (EFA)
4. Easy attachable capsule striper
5. Complying with GMP
6. Complying with TIR securely

SRD

SPECIFICATION

Dimension: 1,738(L) X 905(W) X 1,725(H) mm

Weight: 670 KG

Electric Power: AC 220, 380, 440 V / 50,60 Hz / 3 Ph

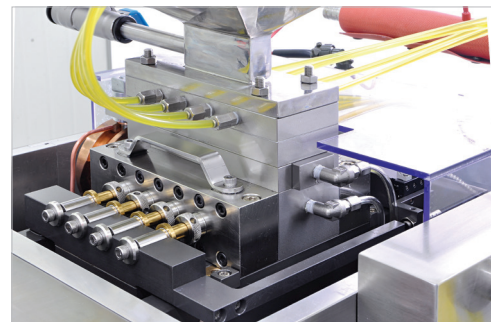
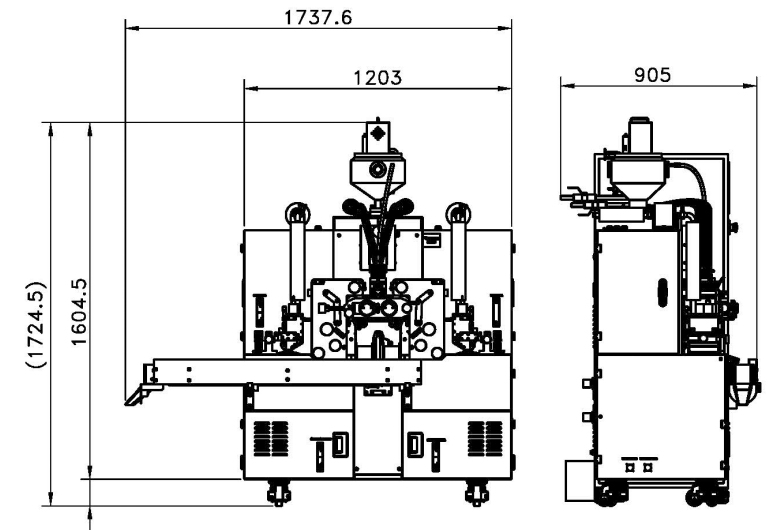
Power Consumption: 18 kW

Die Roll Speed: 3 rpm

Compressed Air: 5 kg f/cm²

Die Roll Size: Ø100 x 100 mm

Productivity: AVG. 8,000 caps/hr at 3 rpm (Ob#20)



Injection Pump & Pump Block



Separate Control Box



Die Roll Housing



OLUS GEL (Veggie soft capsule material)

1. 100% vegetable ingredients
2. Stable quality & reproducibility
3. High cost effectiveness
4. Customized technical support

OLUS GEL

SPECIFICATION

Material: Modified food Starch, Carrageenan

Net Weight: 20Kg / Bag

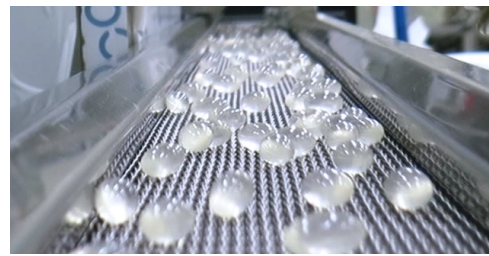
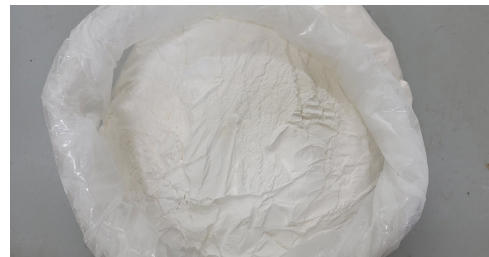
Appearance: Light yellow, Fine powder

Particle Size: 80Mesh 98% pass

pH (10% sol'n): 7.5

Viscosity (10% sol'n): 500 mPa-s at 75C

E.Coil / Coliform (10g): Negative





Auxiliary Equipment - Drying system

1. Seamless Capsules Dryer
2. Batch Dryer
3. TM
4. Drying Tunnel

Seamless Capsules Dryer

- Seamless capsules drying device
- Improvement air-permeability by double mesh
- Discharge capsules by basket Up-Down and reverse rotation
- Capsule air-gap can be expansion drying by static pressure and air volume



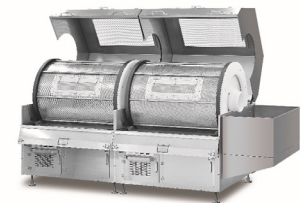
Batch Dryer

- It is a good dryer for small batch size with expensive products
- Can be connected to air duct from air handling unit
- Can be installed heater for fast dry



TM

- Standard size of Capsules drying device
- Each basket can be individually controlled (Drying time, and speed)
- Basket size: Ø 650 X 838mm
- About 2,470 CFM/Basket
- Holding capacity: 25,000 caps



Drying Tunnel

- Faster Drying than open type of drying room
- No cross contamination by various capsules in same room
- Save energy for small batch size of production
- cGMP standard





Auxiliary Equipment - Drying System

1. TJS
2. Double Deck
3. Capsule Tray

TJS

- Big batch size dryer
- Can be used for continuous drying system
- Basket size: Ø 730 X 1,320 mm
- Basket lift installed
- About 3,388 CFM / Basket
- Holding capacity: 55,000 caps



Double Deck

- It is high-efficient to be installed in not enough space.
- It is easy to take in/out basket



Capsule Tray

- 758(W) X 604(D) X 35(H)mm
- Material-Polypropylene (FDA approved material, 21 CFR 177.1520)
- Loading - 1,000 ~2,000 capsules per tray
- Easy to clean / Protection from scratch and break





Auxiliary Equipment - Jet Master

1. Each process fully automated by PLC Control
2. Fully GMP compatible
3. Process time & operator ID validation record by printer
4. Various size dryer baskets can be cleaned.



Basket Washing Machine (BC-500)

SPECIFICATION

Power Consumption: 13.5kW

Mist: 0.4 kW

Voltage: 220 V, 380 V / 3 Ph

Detergent Pump: 0.03 kW

Frequency: 50 /60 Hz

Water Consumption: Max 60 liter/min

Main Motor: 0.4 kW

Fitting Type: Hose nipple (cold, hot, purified water)

Water Pump: 3.5kW

Dimension: 1,545 x 2,400 x 1,840(H) mm

Ring Blower: 8.6kW

Air Pressure: 5kg/cm²

JET MASTER was designed for cleaning tumble dryer basket.

The cleaning time is about 10 minutes for each basket.

The process is pre-washing with cold water > Detergent > rinsing with purified water > Drying



Electronical Basket Trolley



CIP Spray Ball



Touch Screen



Auxiliary Equipment - Gelatin Preparation System

1. Agitator
 - Anchor & paddle type (with scraper)
 - Cross counter rotation
2. Heating
 - Electronic cartridge
 - Hot water circulation method by heat exchanger
3. Auto gelatin cooking system
 - Bubble sensor
 - Proportional valve
 - Save cooking recipe
4. Reduce the waste gelatin (5-10%)
5. CIP Spray ball



Gelatin Melting Tank (ONE-POT Series)

SPECIFICATION

Capacity: 300 ~ 800 Liter

Automatic Temperature Control

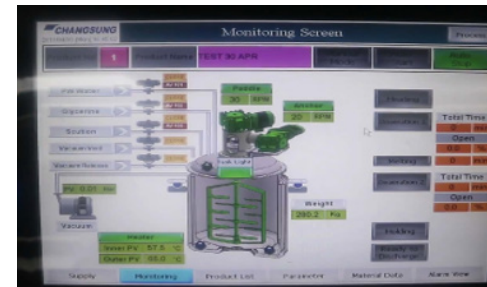
Material: STS 316/304

Touch Screen Panel (Option)

Agitator Speed: 50(1500)

21 CFR part II (Compliance)

Up/Down Type: Hydraulic Lift



Easy Connection



Sanitary pipeline



Sight glass



Auxiliary Equipment - Medicine preparation System

1. Impeller
 - Homogenizer type
 - Disper type
 - High share mixer type
2. Heating & cooling (option)
3. Nitrogen Blanket (option)
4. Paste medicine preparation is available



Medicine Preparation System (UFM Series)

SPECIFICATION

Capacity: 100 ~ 500 Liter

Material: STS 316/304

Agitator Speed: 1,500(3,000) rpm

Up/Down Type: Hydraulic Lift

Touch Screen Panel (Option)

21 CFR part II (Compliance)

Circulation Pump Included

LED lighting (Option)



Sanitary pipeline

Valve system

Touch Screen



Auxiliary Equipment - Paste Making System

1. Automatic paste preparation system
2. Each tank can be individually controlled (mixing, storage tank)
3. Multi shaft mixer (Anchor type agitator with scraper & high speed saw type disper)
4. Capacity 300-800 liter & vacuum and homogenizer



Paste Making System (PMS Series)

SPECIFICATION

Applicable: Pharmaceutical, Nutriceutical,

Food industry, Cosmetics

Dimension: 4,500 X 1,700 X 2,940 mm

Material: STS316, STS304

Voltage: 380 V, 60 Hz, 3 Ph / 220 V, 50 Hz, 1 Ph

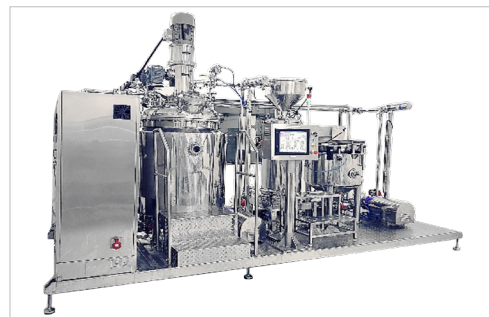
Vacuum Pump Included

Colloid Mill Included

Power Consumption: 40 kW

Weight: Approx. 2,000 KG

Positive Displacement Pump





Auxiliary Equipment - Gelatin Reclaim System

1. 99% performance in the material recovered
2. Within 24months invest recovery
3. Any color separation available
4. All STS piping connection
5. Diafiltration
6. Ultra Membrane Filter to improve quality of gelatin
7. Ceramic Membrane Filter to filtering in-organic material

Gelatin Reclaim System (GRS Series)

SPECIFICATION

Dimension: 12,000X7,000X2,000 mm (GRS4000)

Amount of Water Usage: 50,000 L per day

Power Consumption: 100 kW (GRS4000)

Payback Period: Max 24months



1. Gelatin net



2. After M/F



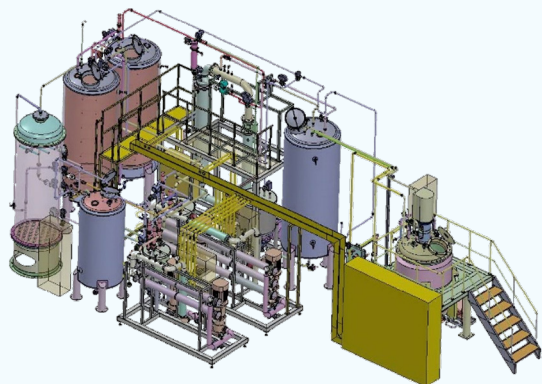
3. After 1st UF



4. After 2nd UF



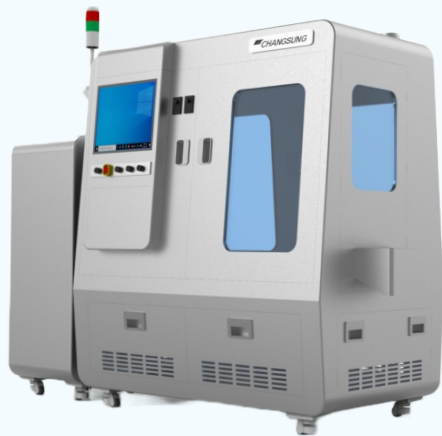
5. After DC





Auxiliary Equipment - Capsule Printing Machine

1. Clean operating atmosphere as UV doesn't require paint (color), in other words stain free operation.
2. Odor free- using ink / color emits odor, creating difficult atmosphere for operators.
3. UV printing doesn't require change parts for different size of capsules. Unlike other printing machines.
4. And of course, printing without use of animal sourced materials.



Capsule Printing Machine (UVP-120)

SPECIFICATION

Capacity: Up to 100,000 Capsules/Hr

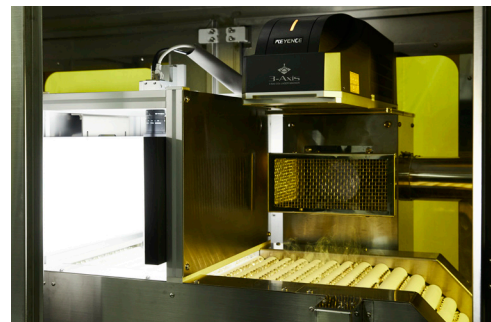
Weight: Approx 950Kg

Base of less than 10 letters and double layer

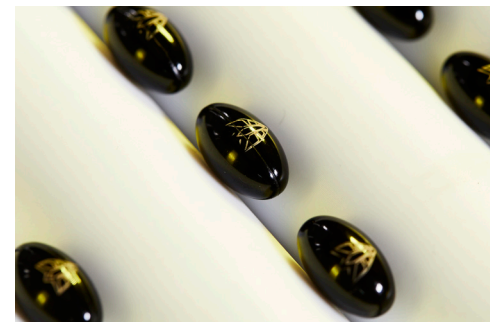
Input Voltage: AC 220V / 50 / 60 Hz

Dimension: 2,591(L) x 1078(W) x 2234(H)mm

Power Consumption: 2 kW



UVPrinter



Logo Printing



Letter Printing



Auxiliary Equipment - Capsule Inspection Machine

1. No need changeable tools (or Jig) according to the capsule shape & size
2. High efficiency lighting plate installed
3. Algorithm method scanning
4. 360° capsule self rotating & analyzing

Capsule Inspection Machine (VIM-100)

SPECIFICATION

Capacity: Up to 240,000 Capsule/Hr
 Oblong #20 -> 120,000 k/Hr
 Oval #10 -> 240,000 Capsule/Hr

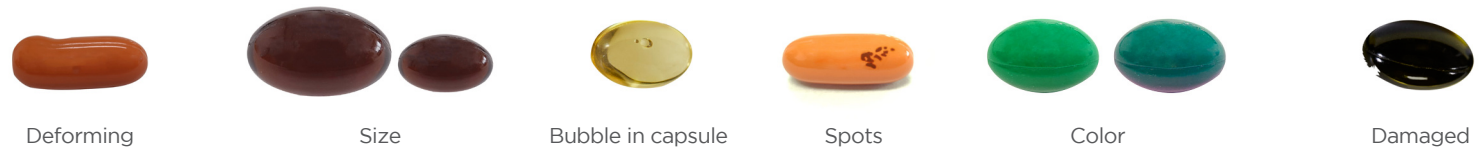
Weight: Approx. 900 KG

Power Consumption: 1.5 kW

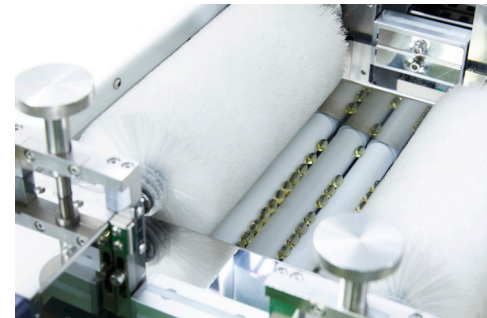
Features:

- 360° capsule self rotating & analyzing
- Total 12 times scanning inspection per capsule by algorithm method
- Easy defect model registration
- Enable the utmost sorting ability in applying "Cross Distance Calculating Algorithm" (1.0mm³ cubical resolution power)
- With applying the symmetry volume calculation algorithm, realized the highest precise sorting ability (Especially effectiveness for capsule size and deforming sorting ability)

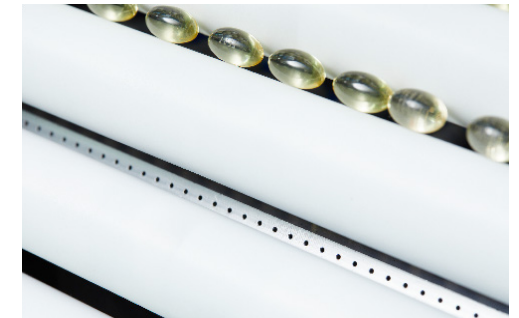
Dimension: 2,591(L) x 992(W) x 2,234(H) mm



Operation part



Roller conveyor



Capsule blowing air holes (2mm gap)



Softgel

Standard Shapes and Sizes

ROUND



1 Round

minims:0.75-1.00
cc:0.046-0.062



2 Round

minims:1.2-2.0
cc:0.074-0.124



3 Round

minims:2.2-3.0
cc:0.136-0.185



4 Round

minims:2.8-4.0
cc:0.172-0.246



5 Round

minims:3.2-5.0
cc:0.197-0.308



6 Round

minims:4.6-6.0
cc:0.283-0.370



7 Round

minims:5.0-7.0
cc:0.308-0.431



9 Round

minims:7.0-9.0
cc:0.431-0.554



15 Round

minims:12.0-15.0
cc:0.740-0.925



20 Round

minims:15.0-20.0
cc:0.925-1.230



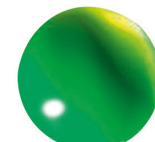
28 Round

minims:22.0-30.0
cc:1.355-1.848



40 Round

minims:32.0-41.0
cc:1.971-2.526



90 Round

minims:70.0-80.0
cc:4.312-4.928



Softgel

Standard Shapes and Sizes

OVAL



2 Oval
minims:1.5-2.3
cc:0.092-0.142



3 Oval
minims:2.4-3.0
cc:0.148-0.185



4 Oval
minims:3.1-4.0
cc:0.191-0.246



5 Oval
minims:4.3-5.0
cc:0.265-0.308



6 Oval
minims:5.2-6.0
cc:0.320-0.370



7 Oval
minims:6.2-7.5
cc:0.382-0.462



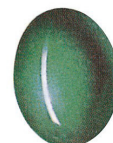
10 Oval
minims:7.5-10.0
cc:0.462-0.616



20 Oval
minims:17.0-20.0
cc:1.047-1.232



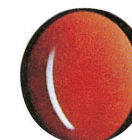
30 Oval
minims:21.0-30.0
cc:1.294-1.848



40 Oval
minims:30.0-40.0
cc:1.848-2.464



60 Oval
minims:41.0-60.0
cc:2.526-3.696



65 Oval
minims:50.0-65.0
cc:3.080-4.004



80 Oval
minims:60.0-80.0
cc:3.696-4.928



Softgel

Standard Shapes and Sizes

OBLONG



3 Oblong
minims:2.3-3.0
cc:0.142-0.185



4 Oblong
minims:3.0-4.0
cc:0.185-0.246



5 Oblong
minims:4.0-5.0
cc:0.246-0.308



6 Oblong
minims:5.0-6.0
cc:0.308-0.370



8 Oblong
minims:6.5-8.0
cc:0.400-0.493



9.5 Oblong
minims:7.5-9.5
cc:0.462-0.585



11 Oblong
minims:10.5-12.2
cc:0.647-0.752



14 Oblong
minims:12.5-14.0
cc:0.770-0.862



16 Oblong
minims:14.0-16.0
cc:0.862-0.986



20 Oblong
minims:16.0-20.0
cc:0.986-1.232



22 Oblong
minims:18.0-22.0
cc:1.109-1.355



24 Oblong
minims:20.0-24.0
cc:1.232-1.478



Softgel

Standard Shapes and Sizes

TUBE



5 TUBE

minims:2.5-5.0
cc:0.154-0.308



6 TUBE

minims:5.0-6.0
cc:0.308-0.370



8 TUBE

minims:6.0-8.0
cc:0.370-0.493



17.5 TUBE

minims:15.0-17.0
cc:0.924-1.047



30 TUBE

minims:27.0-32.0
cc:1.663-1.971



45 TUBE

minims:40.0-45.0
cc:2.464-2.772



55 TUBE

minims:40.0-55.0
cc:2.646-3.388



120 TUBE

minims:90.0-120.0
cc:5.544-7.392

SUPPOSITORIES



6 Suppositories

minims:5.0-6.0
cc:0.308-0.370



40 Suppositories

minims:30.0-40.0
cc:1.850-2.460



10 Suppositories

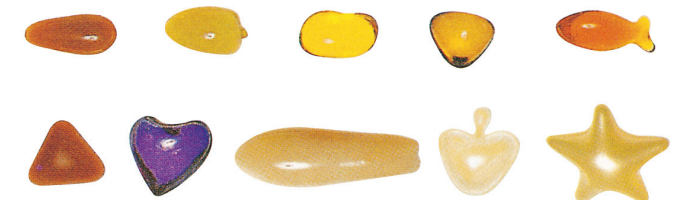
minims:7.0-10.0
cc:0.430-0.620



80 Suppositories

minims:62.0-80.0
cc:3.819-4.928

SPECIAL SHAPES





99, Soheul-Ro, Soheul-Eup,
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