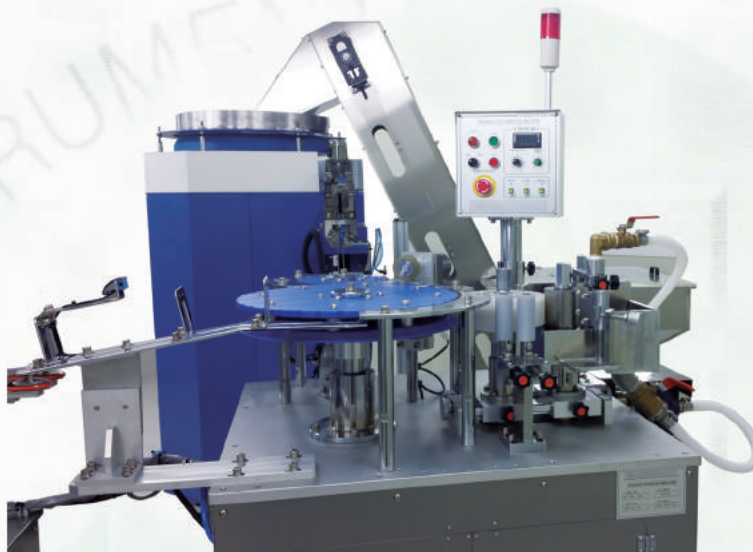


PHOTOGRAVURE PRINTING MACHINE



DMTech strives to produce and supply the highest quality and most reliable Photogravure Printing Machine.

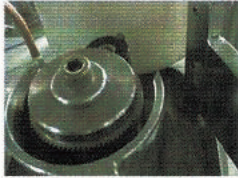
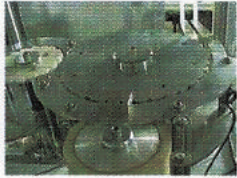

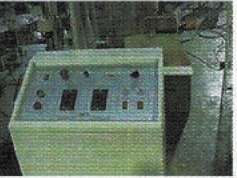


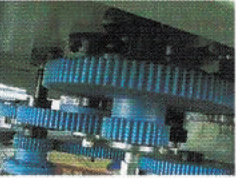
This machine is a Photogravure Printing Machine for printing the scale on the surface of syringe barrel. The Photogravure Printing Machine can perform AUTOMATIC operation with electrical control

TECHNICAL SPECIFICATION

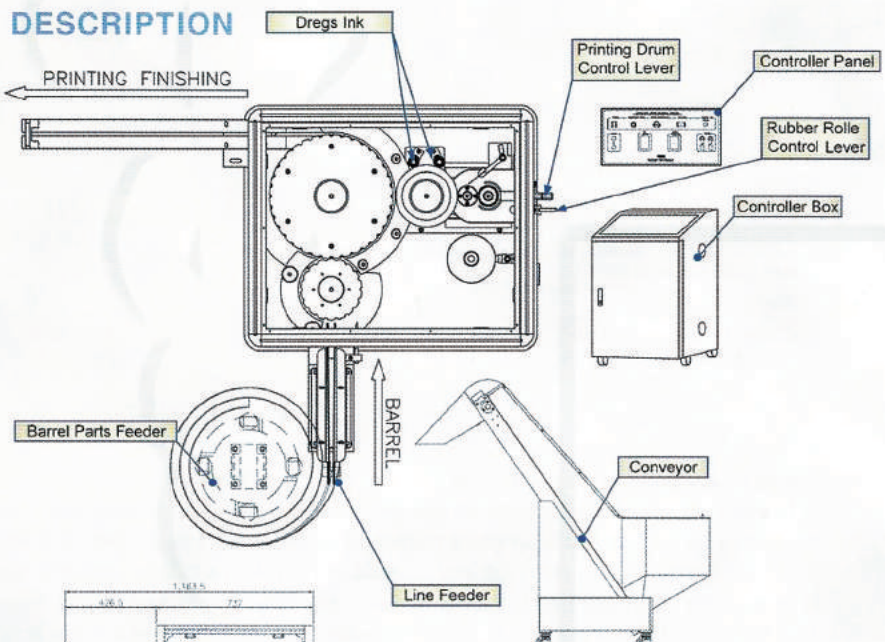
Rated Power		1Phase, AC 220V, 50/60Hz		
Power Consumption		3kW		
Production Capacity (pcs/hr)	Gauge	Optimum		Maximum
	1cc	18,000		22,000
	3cc	18,000		22,000
	5cc	18,000		22,000
	10cc	12,000		14,000
Pneumatic Pressure		Min. 4 ~ Max. 6 kg _f /cm ²		
Air Consumption		Max. 800 liters/min		
Weight		650kg		
Dimension (WxDxH)	Actual	900mm×50mm×880mm		
	Considering Working Space	2,500mm×2,500mm×2,000mm		

FEATURE

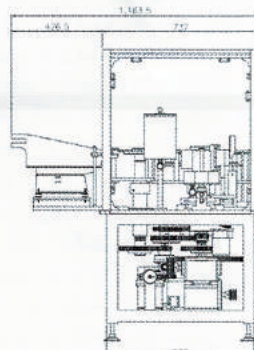
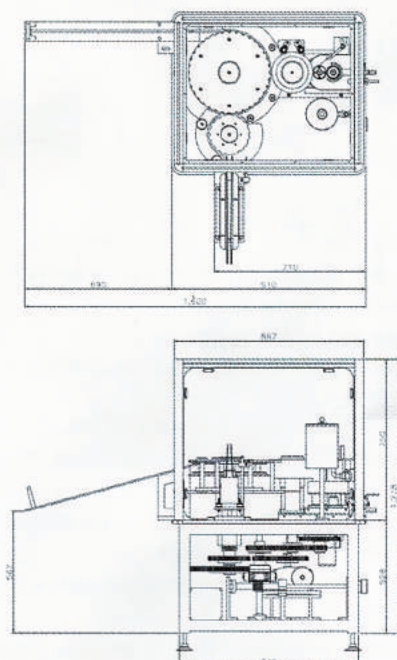
- ✓ Large scale production per hour
- ✓ It is easy to adjust the height of gauge/scale printing on the syringe barrel.
- ✓ It is easy to take out the jammed barrel between no. 2 rotating disk plate and rubber roller by using shaft 6.
- ✓ The regulation of the printing pressure between the syringe and the rubber roller is easy.
- ✓ It is easy to regulate the printing pressure of the rubber roller and the copper printing drum.
- ✓ The setting of the machine is easy because it is designed in such a way that the up and down regulation of the printing drum is smooth. Accordingly, the work efficiency has improved.
- ✓ The bigger rotating plate has increased the production capacity per hour without the change of RPM.
- ✓ The regulation of the gauge/scale printing height on the syringe barrel became easier because the regulating device is projecting outside.
- ✓ It is designed in such a way that the regulation of printing location of the rotating disk plate and the rubber roller can be done easily by shaft 6. Moreover, that resulted in the increased work efficiency.
- ✓ Since the printing pressure-regulator is projecting outside, the regulation of the printing pressure between the syringe and the rubber roller can be done easily with a simple tool.
- ✓ The printing pressure-regulator of the rubber roller and the printing copper drum and that of the syringe and the rubber roller are arranged on the same line, therefore it became easier to operate them.

<p>USE OF SCREW</p>  <p>In case of ink supply by a pump, it was inconvenient to clean the circulation route from the pipe to the ink tank. Now it is easier to clean the ink tank because of the separate outlet for cleaning and the use of screw.</p>	<p>DRUM</p>  <p>The change of the drum material from Plastic to iron reduced the wear rate to guarantee the longer life.</p>	<p>ACRYLIC COVER</p>  <p>The acrylic cover over the machine prevents the dust and foreign substances from entering the inside of the machine and enables the hygienic maintenance of the machine. Its design improved.</p>	<p>CONTROL UNIT</p>  <p>Separated Stand Alone Type</p> <p>When the control panel fitted on the main body, errors in operation of the machine used to occur because of trembling and vibration of the machine. Now the control box separated from the machine prevents the machine from error in operation.</p> <p>Centralization of all the functions of the control on the control box enables to reduce the moving distance during the preparation stage and the work and save the labor cost and subsequently ensures the more efficient work.</p> <p>Separation of the control box makes the surroundings of the machine neat and the casters enable the free space utilization and movement.</p>
<p>DETECTION SENSOR</p>  <p>In case the syringe flow stops at the line feeder because of operation error, the fitted sensor will stop the syringe supply from the pass feeder, which excludes the secondary problems.</p>	<p>THINNER TANK</p>  <p>Automatic input of a minute amount of thinner to prevent the possible clotting of ink during operation enables the more efficient printing and the simplified cleaning of the ink tank after work.</p>	<p>MC GEAR USED</p>  <p>The existing material of the gear is iron. Now the change of the gear material to MC enables to reduce the production rate of defective products caused by vibration, noise, trembling and consequently makes the production of more precise products possible</p>	

DESCRIPTION



DIMENSION



SYRINGE ASSEMBLY MACHINE

(FULL AUTOMATIC)



DMTech strives to produce and supply the highest quality and most reliable **Full Automatic Needle Assembling Machine**.

This machine is a **Disposable Plastic Syringe Assembly Machine**, only. The Syringe Assembly Machine can perform **MANUAL** and **AUTOMATIC** operation with electrical control.

TECHNICAL SPECIFICATION

Rated Power		1Phase, AC 220V, 50/60Hz	
Power consumption (total)		4kW	
Operation Method		Full Automatic / Manual	
Air Consumption		Max. 1200 liter/min	
Pneumatic (Air Pressure)		Max. 8kg _f /cm ² , Min. 4~6kg _f /cm ²	
Production Capacity/hr		-	Optimum
		1cc	18,000
		3cc	18,000
		5cc	18,000
		10cc	12,000
Weight		900kg	
Dimension (WxDxH)	Actual	1700mm x 1060mm x 1070mm	
	Considering Working Area	5700mm x 4300mm x 2000mm	

FEATURE

- ✓ The assembly productivity is relatively good because of the establishment of the stable assembly environment.
- ✓ High quality can be expected because of the minimization of the defective product rate and the stable designing.
- ✓ This machine is equipped with the Helical Gear. Therefore, there is a small backlash between the axles during the transmission of power generated by the motor.
- ✓ For the material of the gear, MC, an engineering plastic material, is used, which contributed to the reduction of noise and the damages (bad quality) caused by use of a great amount of grease.
- ✓ The assembly of the plunger and the barrel is not restricted at No. 4 axle but is done aging at No. 8 axle, therefore the production rate of defective products can be reduced and the deformation of the products be prevented.
- ✓ An optional special nozzle which can spray the silicon oil during the packing assembly is fitted, which excludes the problems that may be caused by the forcible assembly and the excessive application of silicon oil.

HELICAL GEAR

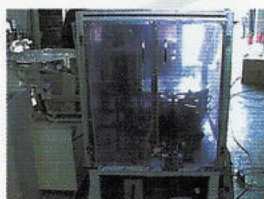


The helical gear has the twisted and curved teeth, which are shifted away a little bit to avoid the simultaneous engagement of the teeth as in case of the spur wheels.

The helical gear has the smoother engagement of the teeth than that of the spur wheel and generates less vibration and noise.

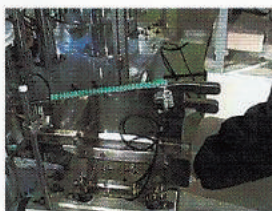
Moreover, its longer contact line enables the easy transmission of a greater force, and its strength is bigger. A thrust toward the axle generates. This thrust can be solved by means of the thrust bearing. (The thrust bearing withstands the load toward the axle).

PLASTIC COVER



The use of the Plastic Cover over the machine excludes the ingress of dust and foreign substances into the machine and secures the hygienic maintenance of the machine and the safety of the user

DETECTION SENSOR



The fitted detection sensors detect the interruption of the flow of the syringes at the line feeder when the machine malfunctions and stops the supply of the Parts Feeder and prevent the possible secondary problems

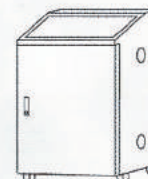
DISPENSER (OPTION)



When the compressed air sprayer onto the inner surface of the barrel sprayed the silicon, the silicon would scatter around the barrel.

Now adopting the dispenser, the spray of an exact amount onto the inner surface of the barrel is possible. That improved the environmental hygiene and the slip degree of the plunger.

CONTROLLER UNIT

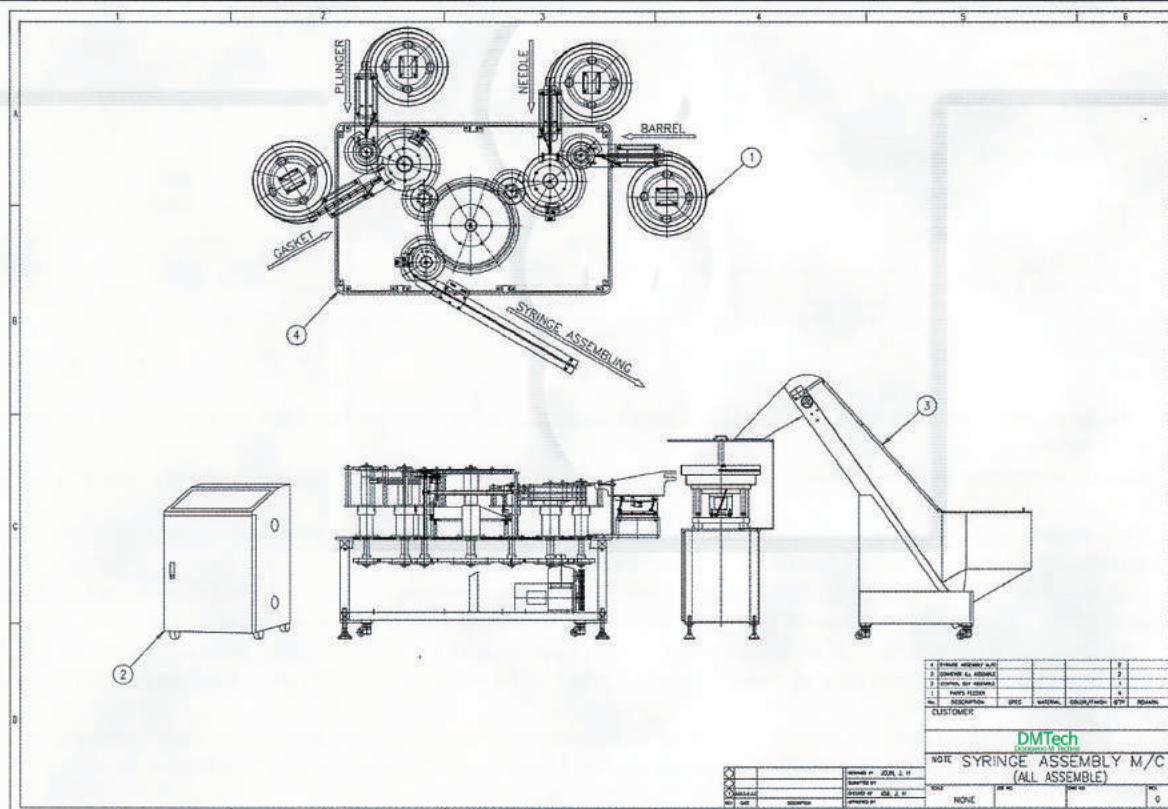


Stand Alone Type
Separated from machine's main body

When the Controller was fitted on the main body, the trembling and vibration of the machine caused the operational error of the machine. Now the Controller is separated from the main body and the operational error by the trembling of the machine can be prevented.

The centralized arrangement of all the control functions into a control unit can curtail the transfer distance during the preparation stage and the operation and reduce the necessary workers. That makes the labor cost saving and the efficient working possible.

The separation of the controller makes the surroundings of the machine tidy and the fitting of casters enables the free space utilization and movement.



BLISTER PACKING MACHINE



DMTech strives to produce and supply the highest quality and most reliable **Blister Packing Machine**.

This **Blister Packing Machine** can perform **MANUAL** and **FULL AUTOMATIC** operation with electrical control.

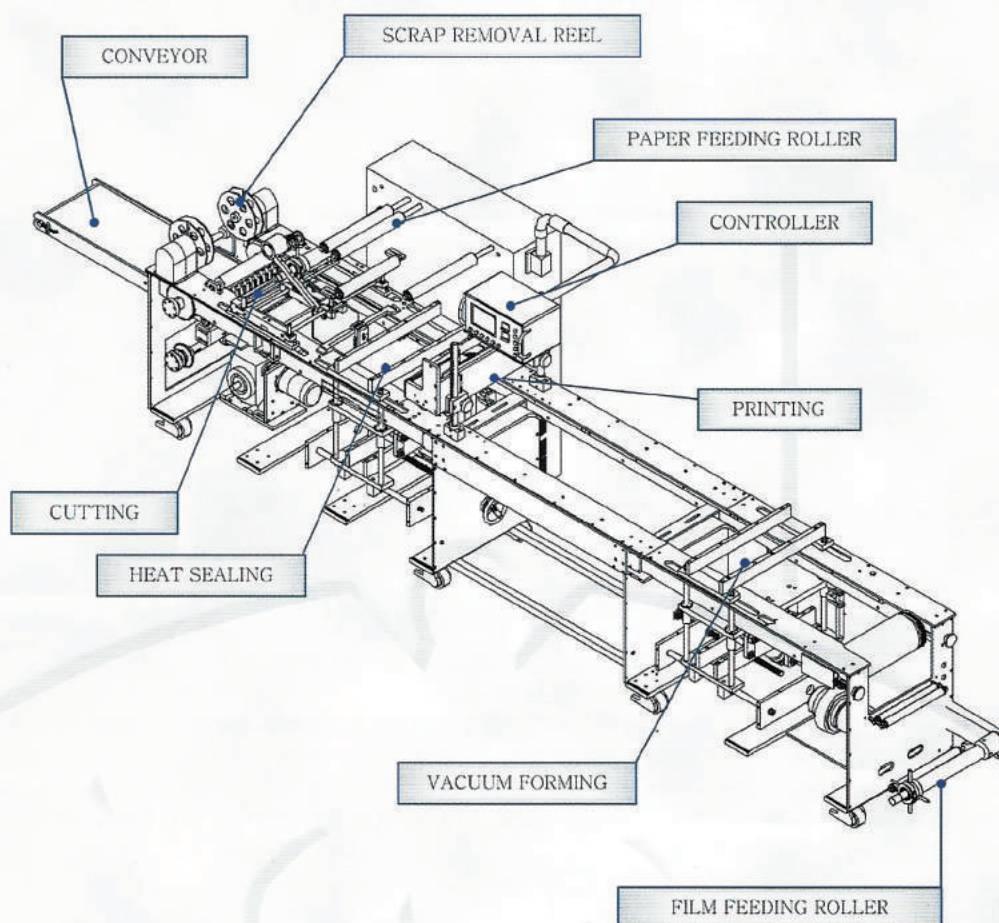
TECHNICAL SPECIFICATION

Input Power	3 Phase, AC 380V, 50 / 60Hz
Power Consumption	9.5kW
Film Width	420mm
Paper Width	395mm
Pneumatic Pressure	6kg _f /cm ²
Dimensions (W x D x H)	6,500mm x 1,010mm x 1,700mm
Machine Weight	Approx. 2,000kg

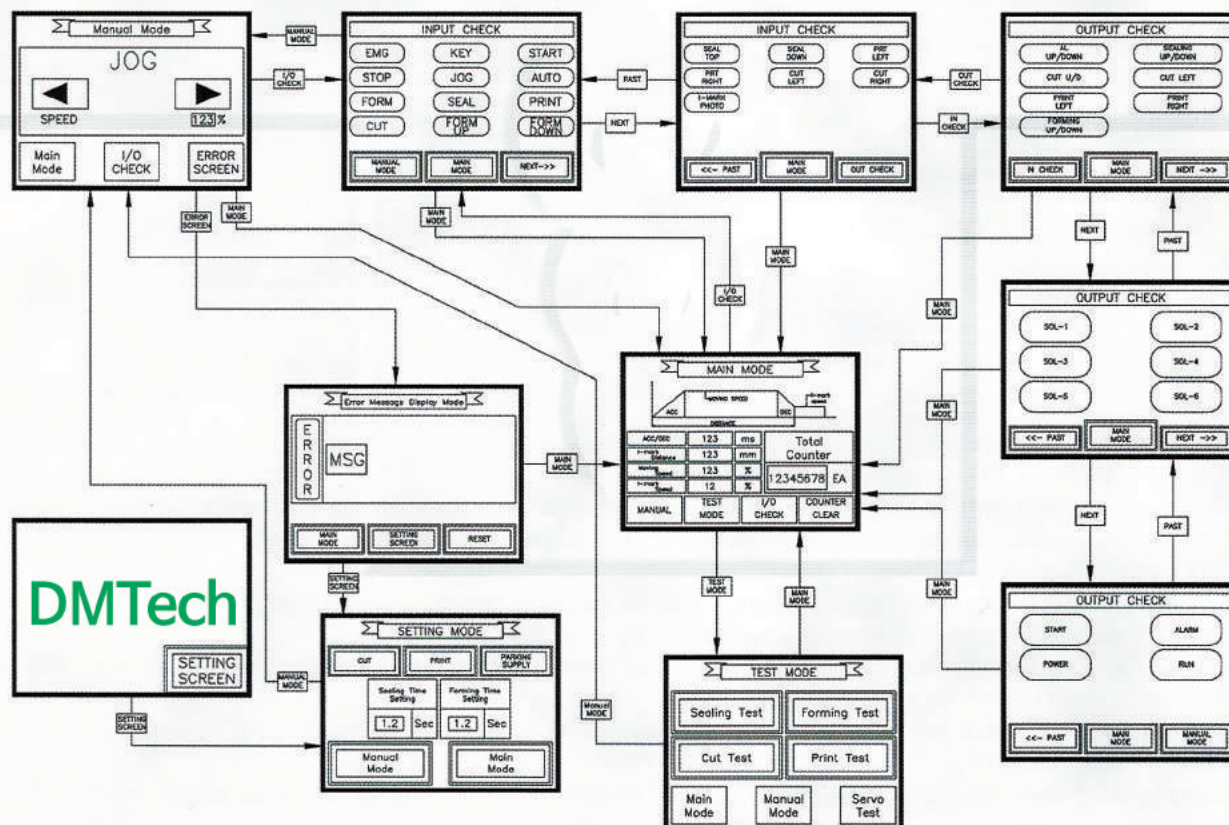
FEATURE

- ✓ Packing by vacuum
- ✓ Packing time: 15 shots/min
- ✓ Max.17 shots/min depending on worker's skill and automatic feeder's performance
- ✓ Extensive use of aluminum (over 90%) in such place as frame, stand etc., makes fine, light weight and clean.
- ✓ Adapt film and paper scrap removal reel to reduce power consumption and noise.
- ✓ Adapt Touch Screen Control Panel for easy operation
- ✓ Adapt Programmable Logic Controller (PLC) for the process automation, which enable to change its process and time easily.
- ✓ Equipped with time controller on local panel for easy time adjustment of vacuum forming and sealing.
- ✓ Manual and automatic operation mode is selectable. It makes easy change in packing process

DESCRIPTION OF THE PARTS OF A MACHINE



TOUCH SCREEN PANEL MAP



BLISTER PACKING SUPPLY MACHINE



DMTech strives to produce and supply the highest quality and most reliable **Blister Packing Supply Machine**.

This **Blister Packing Supply Machine** is to supply the completely assembled products to the Blister Packing Machine as an interlocking device.

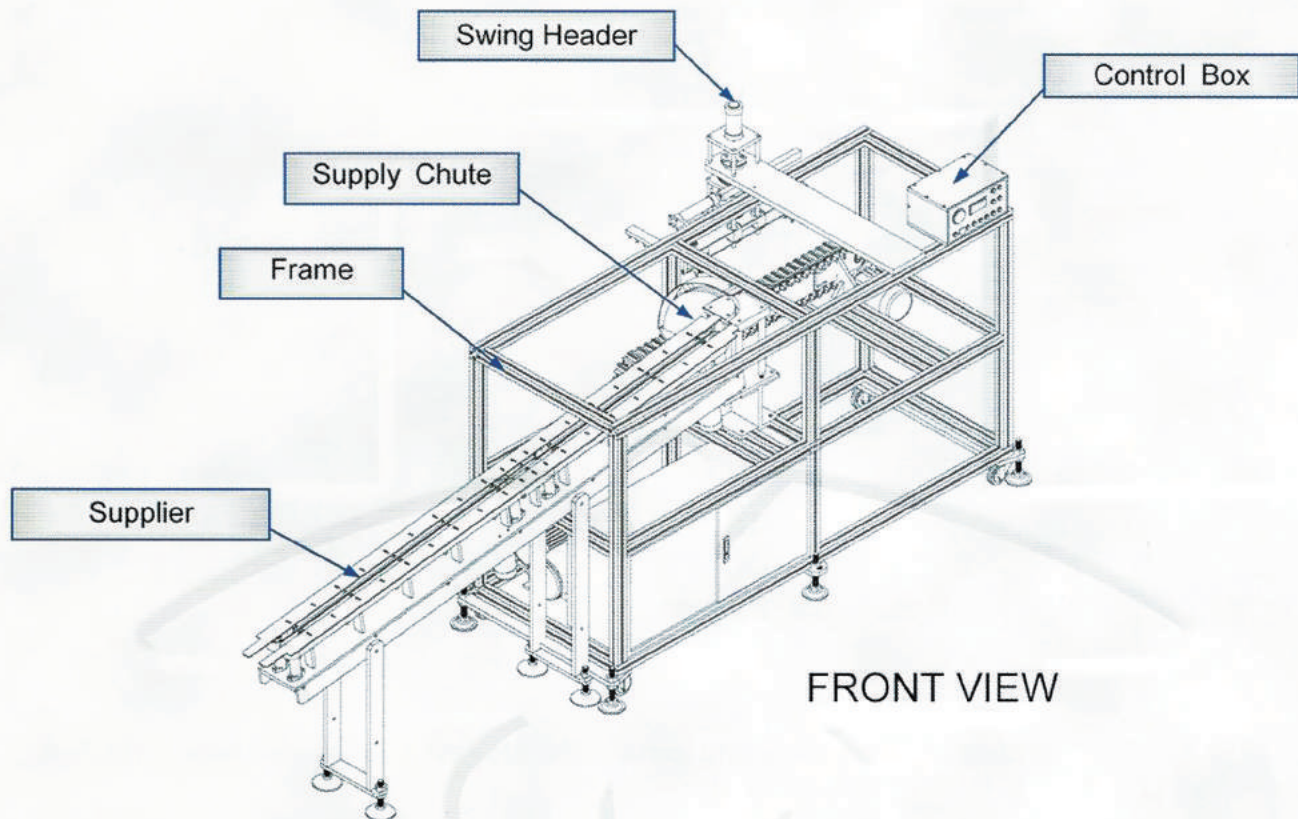
TECHNICAL SPECIFICATION

Rated Power	1 Phase, AC 220V, 50/60Hz
Power Consumption	9.5 kW
Machine Weight	-
Dimensions (W x D x H)	3600mm x 900mm x 1700mm

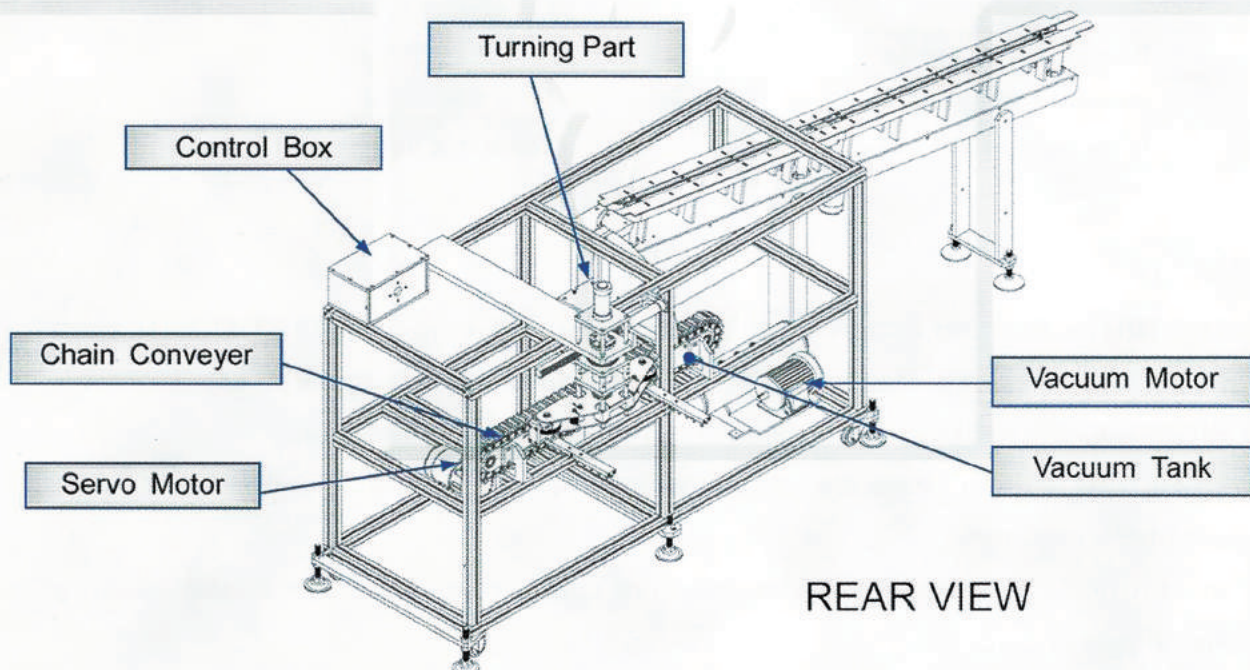
FEATURE

- ✓ This Blister Packing Supply Machine starts by receiving the START SIGNAL from the Blister Packing Machine. At the same time, it transmits a COMPLETION SIGNAL to the packing machine after completion of its operation.
- ✓ When the Blister Packing Machine stops, the supply machine will stop automatically, too.
- ✓ In addition, if the supply machine does not complete its work, the Blister Packing Machine will stop, too.
- ✓ Moreover, it is possible to set various types of operation function.

DESCRIPTION OF THE PARTS OF A MACHINE



FRONT VIEW



REAR VIEW

NEEDLE ASSEMBLING MACHINE

(FULL AUTOMATIC)



DMTech strives to produce and supply the highest quality and most reliable **Full Automatic Needle Assembling Machine**.

This machine is designed to assemble parts (cannula/needle, hub and cap) into a complete needle (for Bulk Needle and Syringe Assembly).

TECHNICAL SPECIFICATION

Rated Power	3Phase, AC 380V, 50/60Hz
Power consumption	20kW
Air Consumption	1300 liter/min
Operation Method	Full Automatic
Production Capacity	Approx. 55,000 pcs/hr
Assembling item	16 gauge to 31gauge
Required number of worker	Two (2)
Quantity of Jig for Hub Holding	350ea (50pin/jig)
Hub & Cap Feeding Method	Vibration
Weight	3,000kg
Dimension (WxDxH)	7,150x4,000x1,800mm



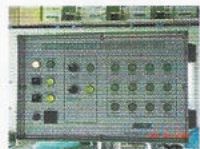
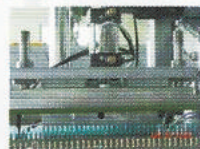
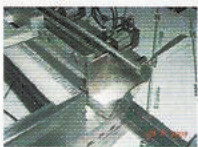
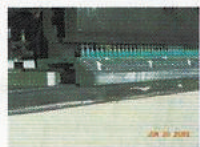
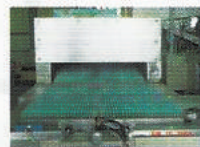




FEATURE

It can assemble various sizes of needle by adjustment of cap inserting part and replacement of needle inserting jig.

Adjustment of dispensing quantity of epoxy resin in accordance with the require specification is available.

Full Automatic Needle Assembling System (Hub + Cannula + Cap)

Self-checking for defective/badness product (Clogging & Reverse Assembly)

MACHINE OVERVIEW (1) 	MACHINE OVERVIEW (2) 	CONTROLLER 	PRESS DOWN THE HUB 
CANNULA ARRAY 	ADHESIVE COATING 	PRESS (HUB+CANNULA) 	DRY 
NEEDLE POINT INSPECTION 	CLOGGING TEST 	DEFECTIVE EJECT 	FINAL PRODUCT (HUB+CANNULA+CAP) 

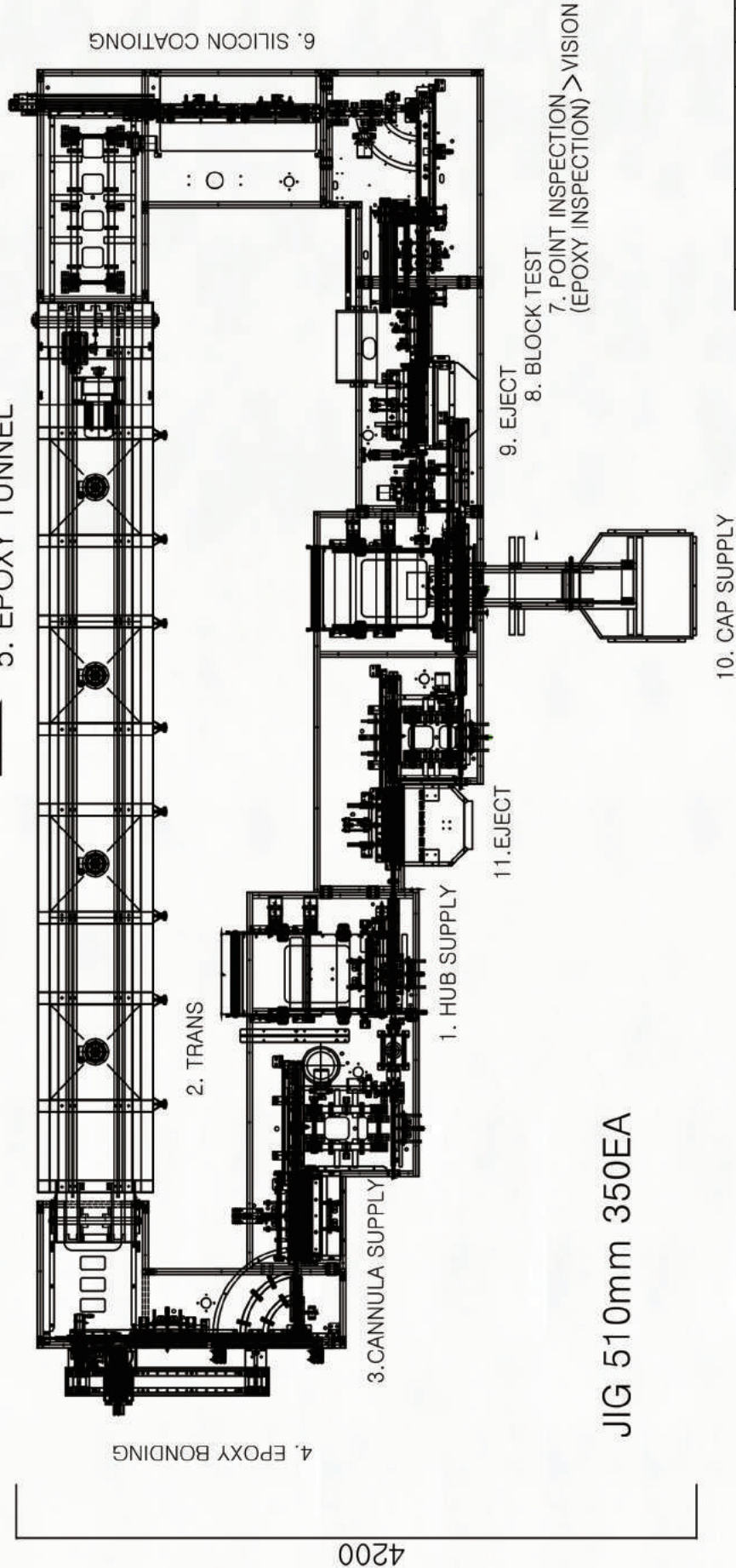
NEEDLE ASSEMBLY M/C

- 1. HUB SUPPLY
- 2. TRANS
- 3. CANNULA SUPPLY
- 4. EPOXY BONDING
- 5. EPOXY TUNNEL
- 6. SILICON COATING
- 7. POINT(EPOXY) INSPECTION
- 8. BLOCK TEST
- 9. N.G. EJECT
- 10. CAP SUPPLY
- 11. PRODUCT EJECT

SPECIFICATIONS	
MACHINE DIMENSIONS	FILTER: 8500(L) x 4200(W) x 1750(H)
FLOOR DIMENSION	
PRODUCT CAPACITY	50,000-60,000/H (MAX)
TACT TIME	28 ± 1.5 SEC / CYCLE
MOTOR	INDUCTION MOTOR: IPG SAC KOREA
CYLINDER-SOL VALVE	SPEED CONTROL MOTOR: PANASONIC SAC KOREA
PRODUCT SUPPLY	VIBRATION MOTOR AC: 200V/15V x 30 x 50/60Hz x 17kW
ELECTRICITY	MAIN CONTROL PRESSURE DC 24V/1.5 PLC
AIR	6BAR GAUGE PRESSURE
NOTICE	

8500

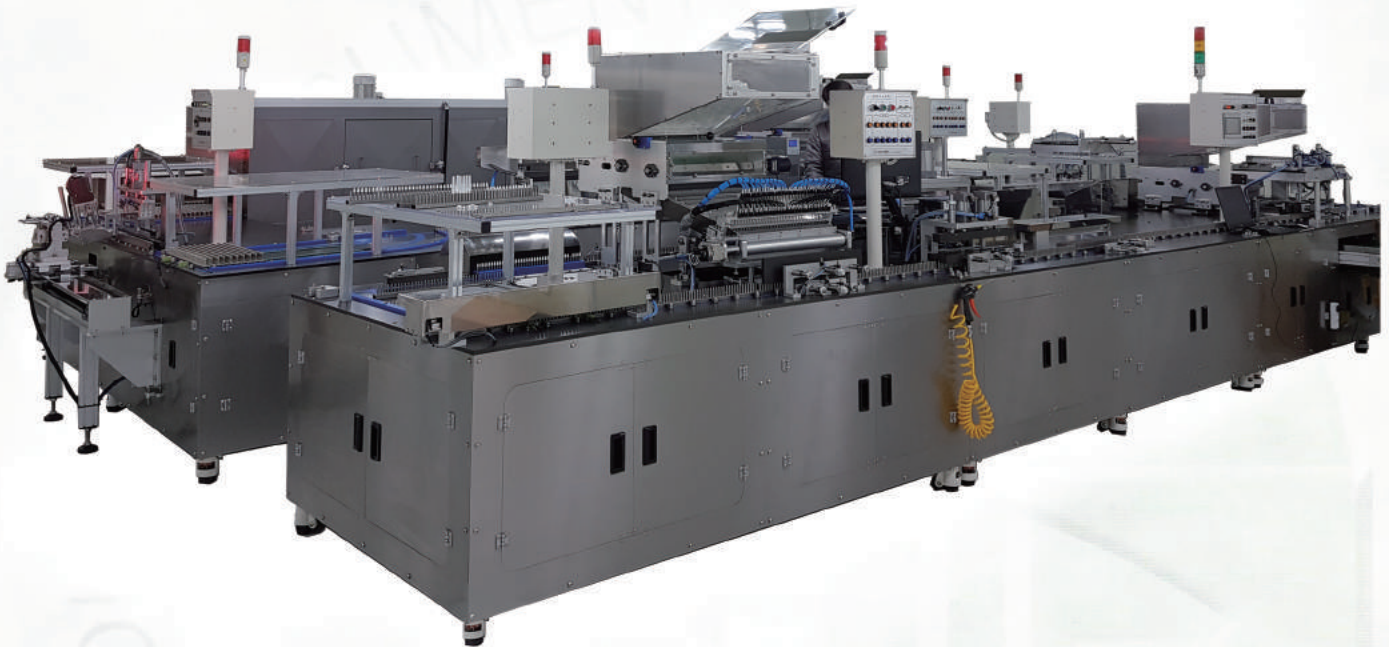
5. EPOXY TUNNEL



JIG 510mm 350EA

NO.	DESCRIPTION	SPECIFICATION	MATERIAL	QTY	REMARK
REVISION	CHANGED	APPROVED	SCALE	1/1	TITLE
DATE	2018-07				NEEDLE Assy Machine
BY	J. Han				LAY OUT
DONGWOO M TECHNO					CUSTOMER

FULL AUTOMATIC DENTAL NEEDLE ASS' Y MACHINE



DMTech strives to produce and supply the highest quality and most reliable
FULL AUTOMATIC DENTAL NEEDLE ASS' Y MACHINE

- Available from 27G to 31G
- Electricity Power
: AC 3P / 380V / 17Kw, 50/60Hz
- Control: L.S PLC
- Main motor : SPG Induction Motor
- Air consumption : 1300L/min
- Air Pressure : 6kg/cm²
- Motor : SPG Induction motor
- Capacity : 25,000-28,000pcs/hour
- Weight : 3,000kgs
- Demension : 8,000 x 4,800x 1750mm
- Frame material : Al profile, SUS 304
- Feeding method : Vibration type
- No. of worker : 1.5 person

Configuration and Parameters

Plasma treatment

InkJet Printer : USA Made

Bonding and Reverted cannula inspection by 4 sets of Vision

Silicone deeping by Jig swing type

Main PLC : L.S PLC (Korea made)

Touch screen : EASY VIEW - 7 inch screen

Vacuum Pump : GARDENER DENVER (Germany made)

Air components : S.M.C Cylinder, Cylinder Sensor, Air Unit.

Sensor : Autinics (Korea made),

Omron (Japan made),

Sick (Germany made)

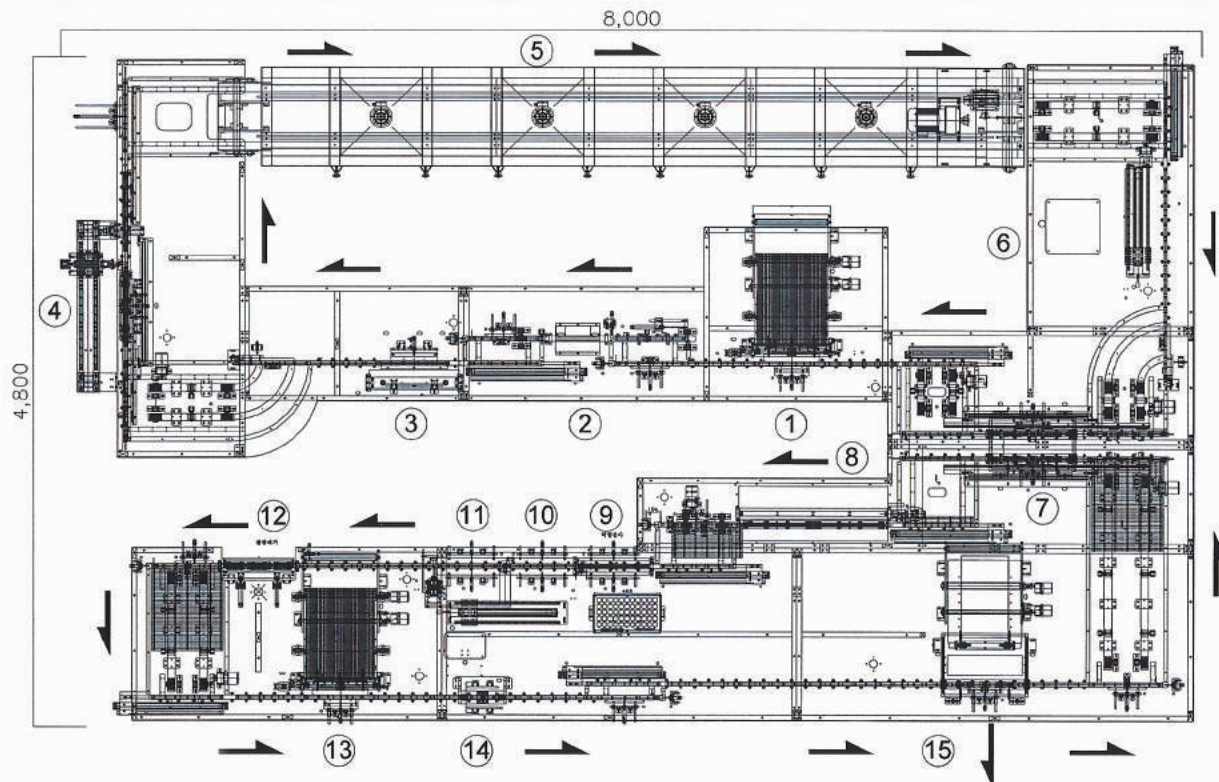
Vision system : Sharp (Japan made), or Keyence (Japan made)

Servo Motor : Mitsubishi (Japan made)

Ball feeder : Hanmi feeder (Korea made)

Jig : For Inch - 300pcs, For mm-300pcs with 40 pins

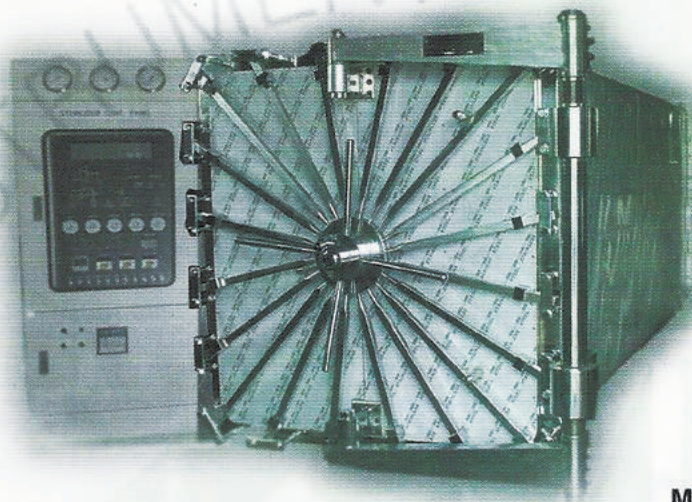
FULL AUTOMATIC DENTAL NEEDLE ASS' Y MACHINE



- | | |
|--|--------------------------------------|
| 1. Hub feeding unit | 9. Blocking test unit |
| 2. Plasma treatment unit | 10. Bonding vision for inspection |
| 3. Cannula inserting unit | 11. Cannula vision for inspection |
| (Cannula feeding & Grinded face setting) | 12. Inferior needle Eject unit |
| 4. Epoxy bonding unit | 13. Upper Cap feeding unit |
| 5. Epoxy Dry oven | 14. Cap pressing unit |
| 6. Triangle sign at hub for point marker by inkjet printer | 15. Under Cap feeding unit |
| 7. Jig Change | 16. Completed Products Ejection unit |
| 8. Silicone oil coating unit | |

SPECIFICATIONIS	
MACHINE DIMENSIONS	FILTER : 8000(L) x 4800(W) x 1750(H)
FLOOR DIMENSION	
PRODUCT CAPACITY	25,000-28,000 EA / H (MAX)
TACT TIME	4.2 - 5.2 SEC / CYCLE
MOTOR	INDUCTION MOTOR : SPG SPEED CONTROL MOTOR: PANASONIC
CYLINDER, SOL VALVE	SMC KOREA SMC KOREA
PRODUCT SUPPLY	VIBRATION MOTOR
ELECTRICITY	MAIN AC380V x 3Φ x 50Hz x 17KW
	CONTROL DC 24V, LS PLC
AIR	PRESSURE 6BAR GAUGE PRESSURE
No. OF WORKER	1.5 PERSON

E.O. GAS STERILIZER (10m³)





Model: AM-STM-01

DMTech strives to produce and supply the highest quality and most reliable **E.O. (Ethylene Oxide) Gas Sterilizer**.

The **E.O. Gas Sterilization** protects the products from deformation or damage or fading and preserves them natural. It is a safer sterilization method than any other for it is harmless to the human body.

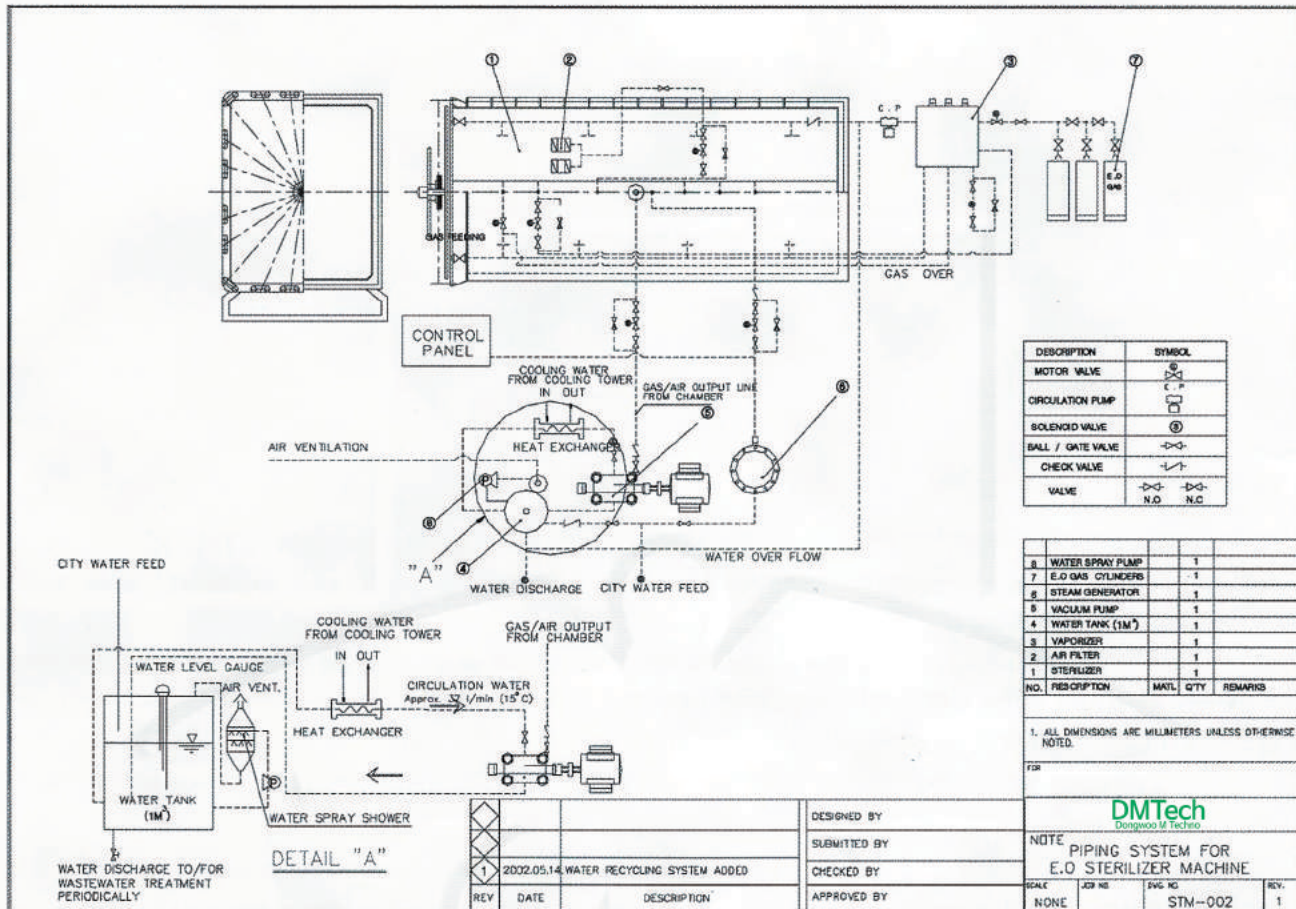
TECHNICAL SPECIFICATION

Rated Power		3Phase, AC 380V, 50/60Hz	
Power Consumption (Total)		55kW	
Capacity		10m ³ (small and larger capacity is available upon request)	
Using Gas for Sterilization		Gas Mixture: 20% of E.O. Gas + 80% of CO ₂	
Water Ring Pump (Vacuum)		30HP, 3Phase, AC 380V, 50/60Hz	
Dimension (W x H x L)	Inner Chamber	10m ³ (1,450mmx1,500mmx4,600mm)	
	Outside	2,100mmx2,200mmx5,200mm	
Option		 E.O. Gas Detector (0~100ppm)	 Gas Alarm Control unit

FEATURE

- ✓ Manufactured to be complied with **CE Standard**.
- ✓ All the operations of the machine are controlled by the P.L.C without need of any separate manipulations.
- ✓ When the time in memory is over, the gas is discharged automatically, which enables the successive repetitions.
- ✓ In this process, a separate manipulation of instruments by man is not necessary.
- ✓ This machine can be operated either automatically or manually.
- ✓ This machine can be used at the vacuum of down to -700mmHg \pm 20 and at the pressure of up to 1.5kgf/cm² \pm 0.1. The vacuum should reach 680~720mmHg in 10 minutes.
- ✓ Door equipped with jacket for hot water circulation and interlocking system to be released at the pressure of 0.2kgf/cm² or less.
- ✓ The optimal humidity of 50% \pm 10 should be maintained to enhance the sterilization effect because E.O. Gas, in its properties, is closely related to the humidity.
- ✓ Comply with Vacuum Leakage Test Method (Vacuumize up to -90.0Kpa and leave it for 6 minutes. The leakage must not exceed 0.3kPa/min.).
- ✓ Recording the consumption of gas.
- ✓ Door Lock Cylinder turns to Operation Lock when the value of the scale is 0.2kgf/cm² and the value of the Chamber Compound is 20kPa.
- ✓ Turn OFF the vacuum pump switch when the value of the Chamber Compound reaches -90Pa.
- ✓ When the temperature of the humidifying tank reaches 120°C, 6 minutes after the foaming a vacuum, humidify up to 5% \pm 10 and add the sterile in 10 minutes after the humidification.

DESCRIPTION



DOOR (PATENT NO.: 0342058)

- Equipped with jacket for hot water circulation and Interlocking system to be released at the pressure of 0.2kgf/cm² or less.
- Safety switch (Automatic operation is possible only when the safety switch is ON)
- Door packing material is made of silicon that withstands the maximum pressure of 1.8kgf/cm² ± 0.1.

CONTROL PANEL

- Equipped with Graphic Board for Process Display
- The whole process can be seen at a glance. Humidity, pressure, temperature and time lapsed.
- P.L.C. (Programmable Logic Controller) control excludes the necessity of any separate operation.
- The status of temperature, humidity and pressure is recording in the recorder automatically.

VAPORIZER

- The role of the vaporizer is to maintain the temperature in the chamber.
- It is an essential device for the Evaporation of E.O..
- The built-in immersion heater is used to vaporize the water.

VACUUM PUMP

- The vacuum degree depends on the performance of the water ring pump that is used according to the properties of E.O..
- Sterilization effect, time and the E.O. residue depend on the vacuum degree.
- The vacuum should reach 680~720mmHg in 10 minutes.
- The perfect vacuum, of course, is preferred, but it depends on the time spent and the properties of the water ring pump.

E.O. GAS PURIFIER (PATENT NO. 0342058)

- It is a component of the vacuum pump.
- It filters out once again the E.O. discharged from the vacuum pump.
- Frequency of the activated carbon replacement: 12 months

HEPA FILTER

- The installation of HEPA filter is essential because a satisfactory sterilization effect cannot be expected through a treatment without HEPA filter.
- The aseptic filter must be able to filter out more than 99.97% of the particles of 0.3 μ or less.
- Use a hygienic filter case and change the filter once a year.
- Use of a pre-filter before the aseptic filter can prolong the life of the filter.

HOT WATER CIRCULATION PUMP

- The hot water heated in the vaporizer maintains the temperature of the chamber circulating through the circulation pump.
- The temperature in the chamber is a critical factor to decide the pressure of E.O., humidity, sterilization time and perfect sterilization.

HUMIDIFIER (PATENT NO. 0342058)

- It makes the room air, the properties of the product, the harmony with E.O. and the sterilization perfect.
- The optimal humidity of 50% ± 10 should be maintained to enhance the sterilization effect because E.O., in its properties, is closely related to the humidity.

.. Law prohibits the reproduction of this humidifying device by any company because AMIK obtained a new invention patent for the device. ..