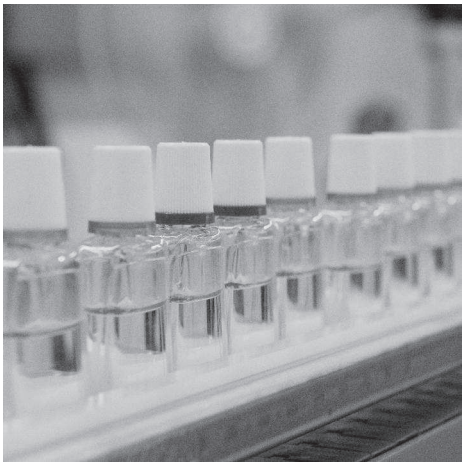
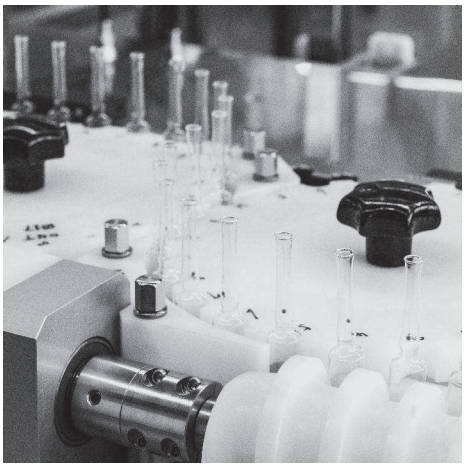
www.daeyongpt.com

KAB-QC-55

DAEYONG
PHARMATECH

Beyond Your **Dream**





Contents

CEO Greeting

Based on technology and trust of 40 years, the history of Daeyong Pharmatech is the history of Korean pharmaceutical automation equipment.

Automated equipment such as injections and eye drops, which had been dependent only on imported foreign equipment, were localized, and many customers are operating our equipment at this moment.

We made successful results by applying the IPC system (weight check system), which was only applicable to expensive equipment of European manufacturers, to domestic equipment for the first time in Korea, and we are doing our best to satisfy all the needs of our customers by applying the CIP/SIP system, etc.

Especially, the powder filling line applied with the dosing disk type is a state-of-the-art equipment capable of filling ultra-precision powder with performance and stability that can compete with foreign equipment in Europe.

While complying with cGMP as well as essential laws and regulations due to the nature of the pharmaceutical industry, we place "customer satisfaction" as our top priority through stable performance and reliable after-sales service using the latest technology.

Based on the generous support and experience of domestic customers, we are pioneering the global market with the confidence of "Made in Korea" and will continue to grow as a small but strong company.

With the pride of being a member of the Korean pharmaceutical industry, we will do our best as a leader in Korean pharmaceutical automation equipment that develops together with our customers.

DAEYONG'S VISION

1. Will grow up the best developing company at the pharmaceutical automation line in Korean Market
2. Will enhance the technology of DYPT by overseas extension

Complete Line for Ampoule and Vial

Medicine Type

Injection Automation Equipment

Eye Drops Line

Oral Solution Line

Washing

Sterilizing

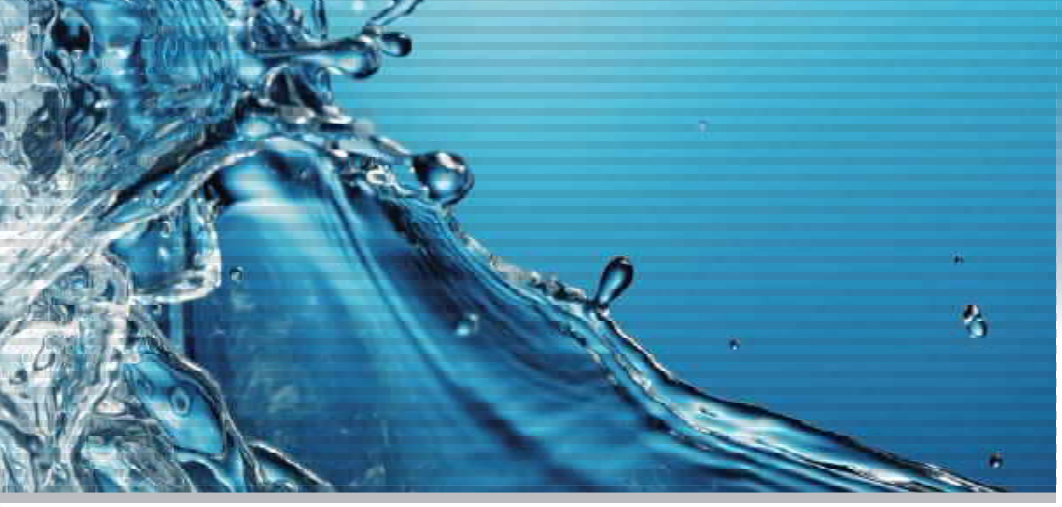
Manufacturing Process								
Washing		Drying & Sterilizing		Filling & Rubber Stoppering			Sealing & Capping	
Rotary Washing M/C. For Vials & Ampoules with Ultrasonic	DWM-1000U	Drying & Sterilizing Tunnel with Laminar Flow	DLT-1000	Liquid Filling & Rubber Stoppering M/C.	Ampoule Filling & Closing M/C.	DAF-3000	AL-Cap Sealing M/C.	DAC-1000
					Combi.Ampoule & Vial Filling & Rubber Stoppering and Closing M/C.	DCF-3000		
	DWM-2000U		DLT-2000		CIP/SIP possible IPC possible	DLF-1000L		
						DLF-2000L		
						DLF-3000L		DAC-2000
	DWM-3000U		DLT-3000			DLF-4000L		
					CIP/SIP possible IPC not possible	DLF-1000R		
						DLF-2000R		
						DLF-3000R		DAC-3000
	DWM-4000U		DLT-4000			DLF-4000R		
					Mass Flow Meter	DLF-3000M		
					Flow Meter	DLF-3000F		
Rotary Washing M/C. For Bottles	DWT-1000	Drying & Sterilizing Tunnel with Laminar Flow (Wide)	DLT-1000W	Powder Filling & Rubber Stoppering M/C.	Vacuum Dosing Disk Type	DPF-1000D		DAC-4000
			DLT-2000W			DPF-2000D		
	DWT-2000		DLT-3000W			DPF-3000D		
			DLT-4000W		Auger Type	DPF-2000A		
	DWI-2000					DPF-4000A		
				Vacuum Rubber Stoppering M/C.		DVS-2000		
				Eye Drops Liquid Filling M/C In-Cap Stoppering & Out-Cap Capping				DEF-2000
				Unscrambler with hopper				DUS-2000
Air Washing M/C.	DAW-1000			Automatic Liquid Filling M/C.		DLF-3000F	In-Out Capping M/C.	DSC-500
Automatic Bottle Washing M/C.	DWT-500							

Filling and Rubber stoppering

Cap sealing

Bottle Washing Machine with Ultrasonic

DWM series



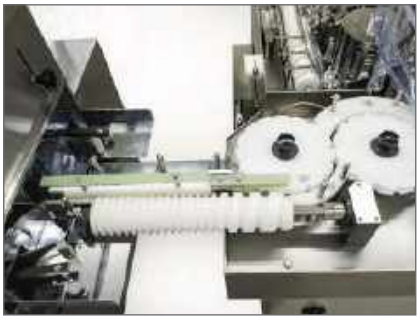
Washing Machine
For Vials and Ampoules with Ultrasonic

Main Product Features

- Widely applied to various sizes of ampoule, vial, etc.
- Added washing function by ultrasonic generator
- Conveyor automatic operation system by sensor
- Automatic up & down cover system
- Exchange of change parts is easy (no special tools required)
- Effect of reducing washing water by using circulating water
- Touch screen HMI system for user convenience (PC-based Touch applied)
- Piping line : Electrolytic polishing treatment after manufacturing automatic welding with sanitary pipe & STS316L material
- Diaphragm seal type conforming to GMP regulations (diaphragm type)
  (Includes a function to prevent foreign substances and puddles inside the gauge connection pipe)
- Turn table type DWT model can be applied excluding ultrasonic washing function depending on the purpose
- cGMP and 21 CFR PART 11 applied
- CE certification
- Proven products with performance of over 100 domestic and overseas units and in normal operation

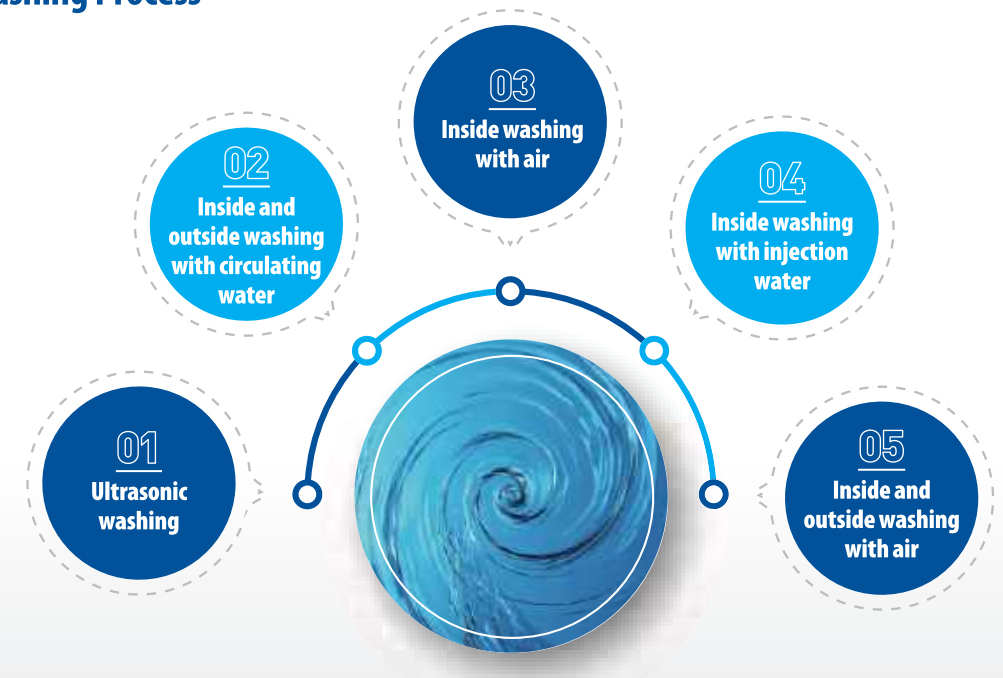
01 Supplying conveyor

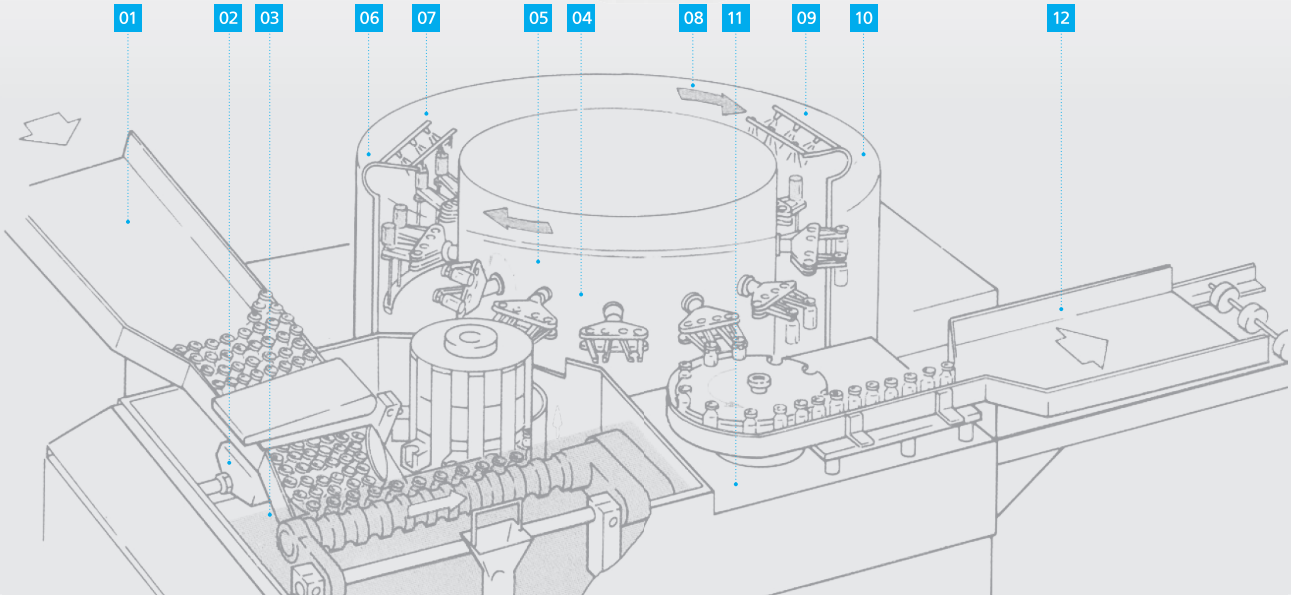
02 Rotary Transport System For Washing



03 Container discharge unit

Bottle Washing Process





01 Transfer the container to the ultrasonic washing tank
02 Ultrasonic washing
03 Transfer the individual container with feed screw
04 Raise the container to spray washing position
05 180˚ rotation after gripping the container with the gripper
06 Washing the inside/outside of the container with circulating water
07 Washing the inside of the container with compressed air
08 Washing the inside of the container with injection water
09 Washing the inside/outside with compressed air
10 Container silicone treatment (optional)
11 Separate the container from Gripper to Star Wheel
12 Export to the next process

01 Pressure Gauge & Control Valve

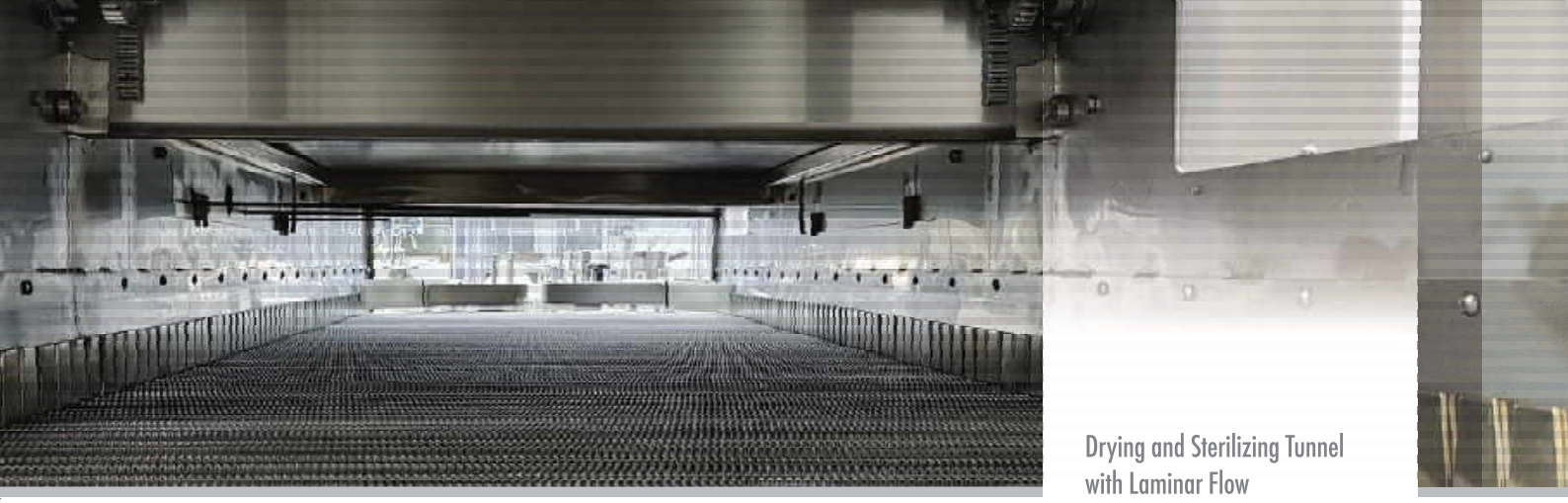
02 180° Rotation Gripper

Specifications

DESCRIPTION		MODEL					
		DWM-1000U	DWM-2000U	DWM-3000U	DWM-4000U	DWT-1000	DWT-2000
Machine Type		Ultrasonic Type	Ultrasonic Type	Ultrasonic Type	Ultrasonic Type	Turn Table Type	Turn Table Type
Number of Gripper		20	40	60	80	20	40
Number of Nozzle		12	24	24	30	12	24
Machine Capacity	10㎖	100 Vial/min	200 Vial/min	300 Vial/min	400 Vial/min	100 Vial/min	200 Vial/min
Main Drive		3P x 220/380V x 0.75kW					
Recycling pump		2.2kW					
Boost pump		1.5kW					
Heater		9.0kW (3kW x 3EA)					
Ultrasonic Generator		220V x 600W, 28KHz				N/A	
Electricity Consumption	Installed Power	3Ø x 220/380V x 16kW					
Machine Material	Critical Pipe & Nozzle	STS316L					
	Appearance & Body	STS304 & Other					
Drive Speed Control		Inverter Control					
Electric Control System		PLC for Monitoring					
W.F.I consumption (5kg/cm², Ø1.9 nozzle inner diameter)		8ℓ/min	10ℓ/min	12ℓ/min	14ℓ/min	8ℓ/min	10ℓ/min
Air consumption (Ø1.9 nozzle inner diameter)	Pressure	3 ~ 5 kg/㎠					
	Consumption	850ℓ/min	950ℓ/min	1,100ℓ/min	1,300ℓ/min	850ℓ/min	950ℓ/min
Filter Housing	Spec.	STS316L, 10 inch					
Filter	W.F.I Filter	0.2 ㎛ PALL (U.S.A)					
	Circulating water filter	1.0 ㎛ POLYCLEAN					
	Air Filter	0.2 ㎛ PALL (U.S.A)					
Dimension		(L)2,030 X (W)2,100 X (H)1,920 mm	(L)2,030 X (W)2,100 X (H)1,920 mm	(L)2,030 X (W)2,100 X (H)1,920 mm	(L)2,030 X (W)2,100 X (H)1,920 mm	(L)2,180 X (W)2,770 X (H)1,920 mm	(L)2,180 X (W)2,770 X (H)1,920 mm
Weight		2,000kg	2,200kg	2,400kg	2,600kg	2,000kg	2,200kg

Laminar Flow Tunnel Sterilizer

DLT series



Drying and Sterilizing Tunnel
with Laminar Flow

Main Product Features

- Laminar flow principle applied to all systems
- Sterilization method suitable for all containers such as ampoule, vial and glass bottle
- Uniform temperature distribution by indirect heating method to dry and sterilize with hot air
- Reduced drying and sterilization time by improving heat transfer efficiency
- Maintaining the cleanliness of the entire system as Class 100 by installing HEPA filter (for ultra-high temperature)
- Manufactured in a structure that is easy to remove and attach HEPA filter
- Complete de-pyrogenization and elimination of endotoxin
- Minimize product damage with smooth flow (no vial damage and fall due to wind speed)
- Maintaining stable temperature distribution (±2%)
- Operators can monitor in real time by installing multiple temperature sensors
- Touch screen HMI system for user convenience (PC-based Touch applied)
- cGMP and 21 CFR PART 11 applied

01 Inlet Zone Feed Conveyor

02 HEPA Filter Replacement

03 Conveyor Washing Equipment

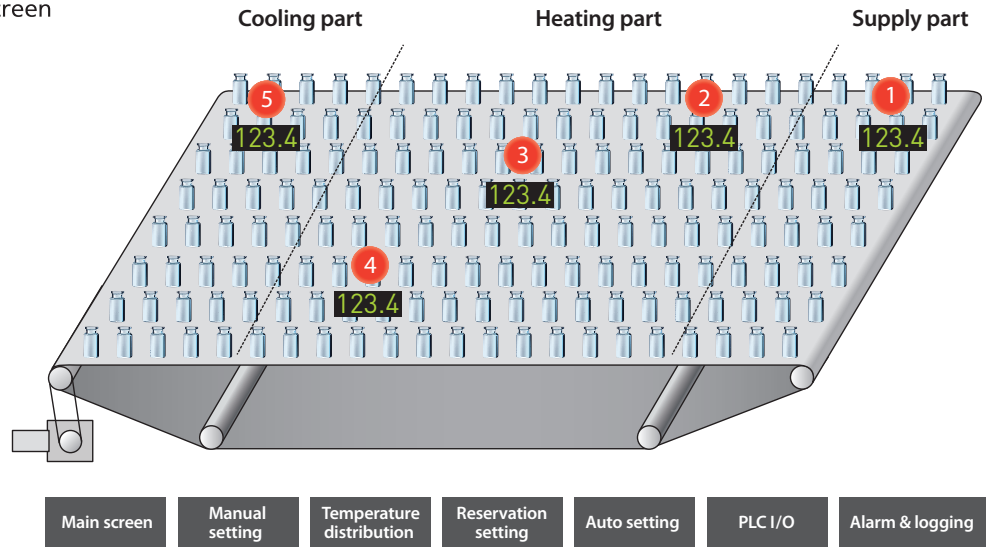
Sterilization Process

1. Location of Tunnel Sterilizer Temperature Sensors

- A total of 5 temperature sensors are installed (based on DLT-1000) to display the temperature at the current location in real time
- Temperature deviation ±2℃
  - ① Inlet Zone (supply part): No. 1 temperature sensor
  - ② Heating zone (heating part): No. 2, 3, 4 temperature sensor
  - ③ Cooling zone (cooling part): No. 5 temperature sensor

2. Temperature Distribution Screen

Log level 12
Initial screen



3. Hot Air Circulation Duct and Auto Damper Device for Tunnel Sterilizer (Servo motor applied)

- The duct installed on the upper part of the heater of the heating door is manufactured to smoothly circulate the air recirculation of the laminar flow
- Convenient automatic operation by applying auto damper device

Circulation Duct

Auto Damper device(Servo motor applied)

Specifications

Width 600mm

DESCRIPTION		MODEL			
		DLT 1000	DLT-2000	DLT 3000	DLT 4000
Machine Type		With Laminar Flow Type(Sterilization for 5 minutes at 300℃ sterilization temperature)			
Applicable Products		Vial & Ampoule			
Heating Zone		1 Zone	2 Zone	3 Zone	4 Zone
Out Capacity	10mL [Ø22]	85 EA/min	170 EA/min	255 EA/min	340 EA/min
Hot Air Temperature Sensor		5 EA	6 EA	7 EA	8 EA
Number of Temperature Sensor		Max 350℃			
Conveyor Speed (Max)		200mm/min			
Conveyor Width		600mm (Mesh Belt)			
Standard Voltage		3-phase, 380V, 60Hz			
Heater		24kW	48kW	72kW	96kW
Installed Power		36kW	60kW	85kW	120kW
Drive Speed Control		Inverter Control			
Electric Control System		PLC for Monitoring			
BLOWER MOTOR	INLET ZONE	1HP×1 EA	1HP×1 EA	1HP×1 EA	1HP×1 EA
	HEATING ZONE	2HP×1 EA	2HP×2 EA	2HP×3 EA	2HP×4 EA
	COOLING ZONE	2HP×1 EA	2HP×1 EA	2HP×1 EA	2HP×1 EA
	AIR VENT	2HP×1 EA	2HP×1 EA	2HP×1 EA	2HP×1 EA
FILTER	INLET ZONE (For high temperature)	Medium Filter - 305×305×75 ; 2EA HEPA Filter - 610×305×150 ; 1EA	Medium Filter - 305×305×75 ; 2EA HEPA Filter - 610×305×150 ; 1EA	Medium Filter - 305×305×75 ; 2EA HEPA Filter - 610×305×150 ; 1EA	Medium Filter - 305×305×75 ; 2EA HEPA Filter - 610×305×150 ; 1EA
	HEATING ZONE (For ultra-high temperature) (MUKI : JAPAN)	Medium Filter - 305×305×75 ; 1EA HEPA Filter - 610×762×150 ; 1EA	Medium Filter - 305×305×75 ; 2EA HEPA Filter - 610×762×150 ; 2EA	Medium Filter - 305×305×75 ; 3EA HEPA Filter - 610×762×150 ; 3EA	Medium Filter - 305×305×75 ; 4EA HEPA Filter - 610×762×150 ; 4EA
	COOLING ZONE (For high temperature)	Medium Filter - 610×610×75 ; 2EA HEPA Filter - 610×762×150 ; 1EA	Medium Filter - 610×610×75 ; 2EA HEPA Filter - 610×762×150 ; 1EA	Medium Filter - 610×610×75 ; 2EA HEPA Filter - 610×762×150 ; 1EA	Medium Filter - 610×610×75 ; 2EA HEPA Filter - 610×762×150 ; 1EA
Dimension		(L)3,200 X (W)1,800 X (H)2,500 mm	(L)4,100 X (W)1,800 X (H)2,500 mm	(L)5,100 X (W)1,800 X (H)2,500 mm	(L)6,160 X (W)1,800 X (H)2,500 mm
Weight		3,500kg	4,500kg	5,500kg	6,500kg

Ampoule Filling Machine

DAF series

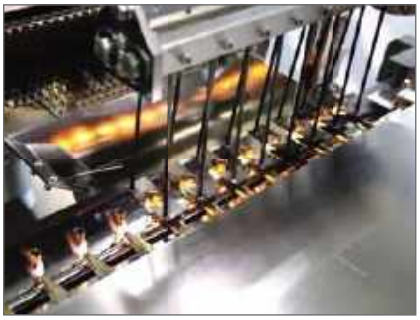
Ampoule Liquid Filling
and Closing Machine

Main Product Features

- Conveyor system that does not fall over any standard ampoule
- Accurate filling with servo control filling
- Clean closing treatment after filling
- Nitrogen charging possible before/after filling
- Exchange of change parts is easy (no special tools required)
- Touch screen HMI system for user convenience (PC-based Touch applied)
- cGMP and 21 CFR PART 11 applied

01 Feeding

02 Filling



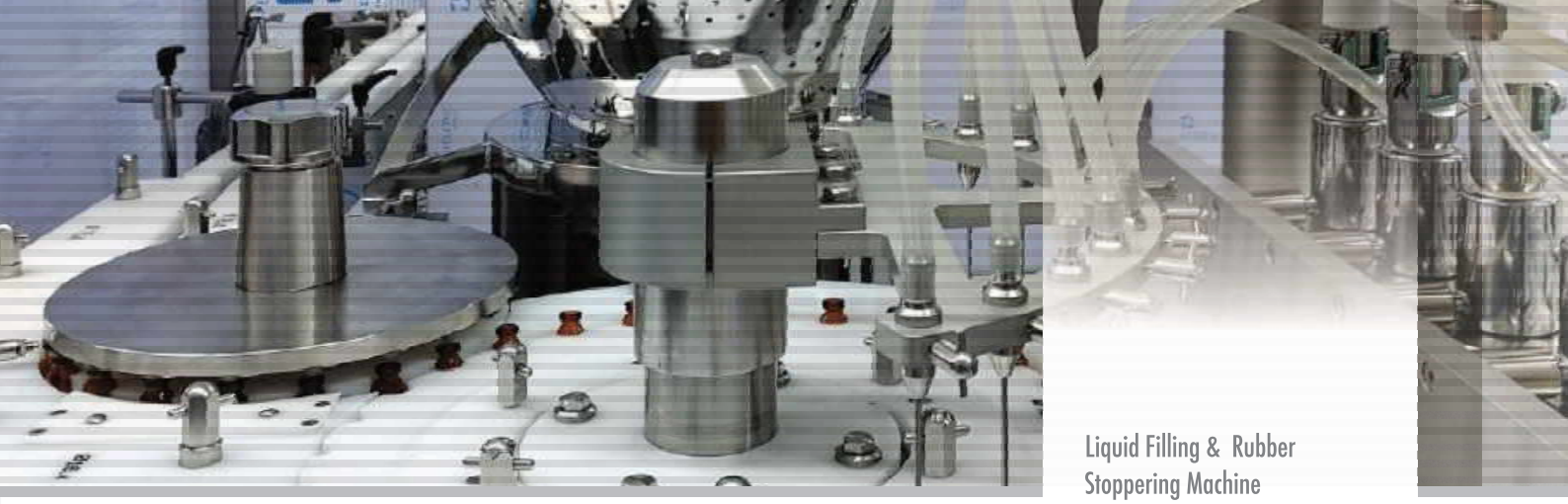
03 Closing

Specifications

DESCRIPTION		MODEL DAF-3000
Machine Type		LINE TYPE
Out Capacity	1ml [Ø10]	360~380 EA/min
	2ml [Ø11.2]	
Filling Method		Servo Control
Rotary Slide Dosing Pump		8 PCS
Filling Nozzle		8 PCS
N2 Nozzle (Before/After filling)		16 PCS
Electricity Consumption	Standard Voltage	220/380V, 50/60Hz
	Installed Power	7kW
COMPRESSED AIR	Pressure	3~5Kg/㎠
	Consumption	14ℓ/min
Drive Speed Control		Inverter Control
Electric Control System		PLC for Monitoring
Dimension		(L)3,980 X (W)2,060 X (H)2,100 mm
Weight		2,500kg

Vial Liquid Filling Machine

DLF series



Liquid Filling & Rubber Stoppering Machine

Main Product Features

- Various models such as line type and rotary type
- No drop of filling liquid due to specially manufactured nozzle
- Accurate filling with servo control filling method
- Easy filling amount setting and adjustment by program
- No vial – No filling
- Nitrogen charging possible before/after filling
- Exchange of change parts is easy (no special tools required)
- CIP/SIP applicable (Global pump maker pump applied - SPC, NEOCERAMIC)
- IPC SYSTEM applicable (Sampling weight check, 100% weight check)
- Mettler Toledo's high-precision scales applied
- Touch screen HMI system for user convenience (PC-based Touch applied)
- cGMP and 21 CFR PART 11 applied

01 Feeding

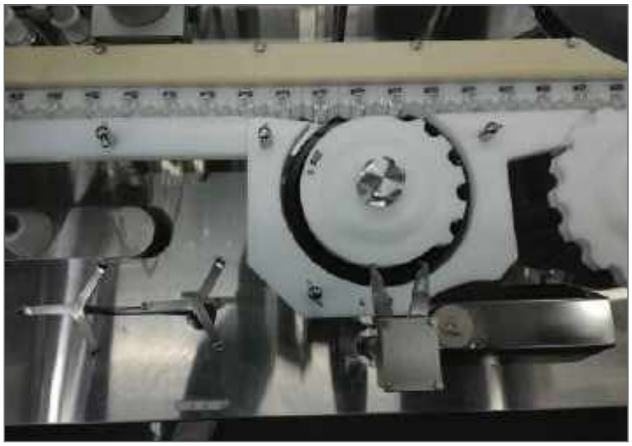
02 Rubber stoppering

03 Service tank & Pump station

IPC SYSTEM

(SAMPLING WEIGHT CHECK, 100% WEIGHT CHECK All Available)

- As a MONOBLOCK type, it can be installed in a small space (Sampling weight check)
- Satisfy the required capacity by adding or subtracting the scale number as needed (100% weight check)
- Mettler Toledo's high-precision scales applied



IPC(weight check system)

Scale Measurement Data Sample

Main Part Photo

Rubber Stoppering Inspection Sensor

Filling Pump & Nozzle

Rubber Stopper Bag Feeding Part

Rubber Stopper Presence Inspection

Specifications

L type (Line type)

DESCRIPTION		MODEL			
		DLF-1000L	DLF-2000L	DLF-3000L	DLF-4000L
Machine Type		LINE TYPE (Continuous Type)	LINE TYPE (Continuous Type)	LINE TYPE (Continuous Type)	LINE TYPE (Continuous Type)
Out Capacity	10ml [Ø22]	80~100 Vial/min	180~200 Vial/min	280~300 Vial/min	380~400 Vial/min
Filling Method		Servo Control			
Rotary Slide Dosing Pump		4 PCS	6 PCS	8 PCS	10 PCS
Filling Nozzle		4 PCS	6 PCS	8 PCS	10 PCS
Nitrogen Nozzle		4 PCS	6 PCS	8 PCS	10 PCS
Electricity Consumption	Standard Voltage	220/380V, 50/60Hz			
	Installed Power	7kW	8kW	9kW	10kW
COMPRESSED AIR	Pressure	5Kg/㎠			
	Consumption	14ℓ/min			
Drive Speed Control		Inverter Control			
Electric Control System		PLC & Touch Screen			
Dimension		(L)2,620 X (W)1,500 X (H)1,800 mm	(L)2,800 X (W)1,600 X (H)1,800 mm	(L)3,000 X (W)1,700 X (H)1,800 mm	(L)3,200 X (W)1,800 X (H)1,800 mm
Weight		2,500kg	2,600kg	2,700kg	2,800kg

R type (Rotary type)

DESCRIPTION		MODEL			
		DLF-1000R	DLF-2000R	DLF-3000R	DLF-4000R
Machine Type		Rotary TYPE (Continuous Type)	Rotary TYPE (Continuous Type)	Rotary TYPE (Continuous Type)	Rotary TYPE (Continuous Type)
Out Capacity	10ml [Ø22]	80~100 Vial/min	180~200 Vial/min	280~300 Vial/min	380~400 Vial/min
Filling Method		Servo Control			
Rotary Slide Dosing Pump		4 PCS	6 PCS	8 PCS	10 PCS
Filling Nozzle		4 PCS	6 PCS	8 PCS	10 PCS
Nitrogen Nozzle		4 PCS	6 PCS	8 PCS	10 PCS
Electricity Consumption	Standard Voltage	220/380V, 50/60Hz			
	Installed Power	7kW	8kW	9kW	10kW
COMPRESSED AIR	Pressure	5Kg/㎠			
	Consumption	14ℓ/min			
Drive Speed Control		Inverter Control			
Electric Control System		PLC & Touch Screen			
Dimension		(L)1,600 X (W)1,000 X (H)1,800 mm	(L)2,000 X (W)1,200 X (H)1,800 mm	(L)2,200 X (W)1,400 X (H)1,800 mm	(L)2,400 X (W)1,600 X (H)1,800 mm
Weight		2,000kg	2,100kg	2,200kg	2,300kg

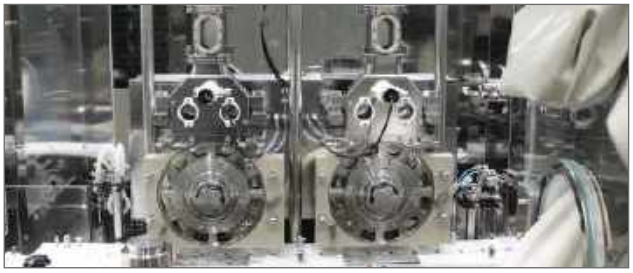
Powder Filling Machine

DPF series

Automatic Powder Filling Machine

Main Product Features

- Developed for the first time in Korea
- Auger type or Dosing Disk type
- Accurate filling possible by vacuum pressure system (Dosing Disk Type)
- Easy filling amount setting and adjustment by program
- No vial – No filling
- Nitrogen charging possible before/after filling
- Exchange of change parts is easy (no special tools required)
- IPC system applicable (Sampling weight check, 100% weight check)
- Touch screen HMI system for user convenience (PC-based Touch applied)
- cGMP and 21 CFR PART 11 applied



01 Dosing Disk

02 Field Installation Photo

Specifications

DESCRIPTION		MODEL					
		DPF-1000D	DPF-2000D	DPF-3000D	DPF-2000A	DPF-4000A	DPF-6000A
Machine Type		LINE TYPE					
Out Capacity	1g	150 Vial/min	250 Vial/min	300 Vial/min	40~80 Vial/min	80~160 Vial/min	100~240 Vial/min
Filling Method		Vacuum Dosing Disk			AUGER		
Number of Dosing		1 PC	2 PCS	3 PCS	2 PCS	4 PCS	6 PCS
Electricity Consumption	Standard Voltage	220/380V, 50/60Hz					
	Installed Power	10kW	12kW	14kW	8kW	10kW	12kW
COMPRESSED AIR	Pressure	5Kg/㎠					
	Consumption	14ℓ/min					
Drive Speed Control		Inverter Control					
Electric Control System		PLC for Touch Screen					
Dimension		(L)3,000 x (W)3,000 x (H)2,350 mm	(L)3,500 x (W)3,000 x (H)2,350 mm	(L)4,000 x (W)3,000 x (H)2,350 mm	(L)3,000 x (W)2,500 x (H)2,010 mm	(L)3,500 x (W)2,500 x (H)2,010 mm	(L)4,000 x (W)2,500 x (H)2,010 mm
Weight		2,500kg	2,600kg	2,700kg	2,500kg	2,600kg	2,700kg

Cap Sealing Machine

DAC series

AL - Cap Sealing Machine

Main Product Features

- High stability due to continuous flow of bottles
- Low noise and smooth transfer method
- Minimize defective rate by sealing method by specially manufactured circular sealing head unit
- Easy maintenance
- Easy height adjustment of sealing head unit by digital gauge display
- All processes are detected by the interlock device.
- Exchange of change parts is easy (no special tools required)
- Touch screen HMI system for user convenience (PC-based Touch applied)
- Inkjet print & print inspection system
- Cap sealing inspection system
- Reject system (poor cap sealing)

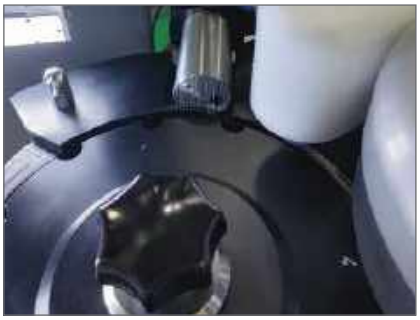
01 Feeding turn table

02 Cap Sealing

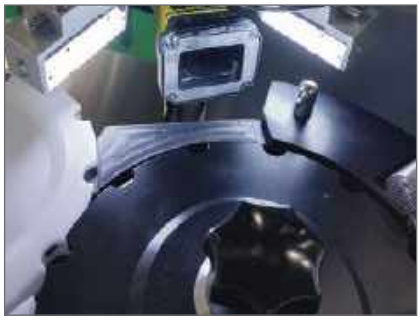
03 Monoblock for Cap Sealing ETC.

INKJET PRINT & INSPECTION SYSTEM

- After sealing is completed, the serial number, etc. is printed on the side of the cap with a cartridge inkjet printer
- After printing, character recognition for serial numbers, etc. and printing defects are detected with a vision inspection machine



Print device



Print inspection device

Print result

CAP SEALING INSPECTION SYSTEM

- Defect confirmation with cap sealing inspection
- Vials judged to have poor sealing by vision inspection are separately discharged with the reject system

Cap Sealing Inspection Device

Cap Sealing Inspection Device

Specifications

DESCRIPTION		MODEL			
		DAC-1000	DAC-2000	DAC-3000	DAC-4000
Machine Type		Rotary Flat Wheel Edge			
Out Capacity	10mL [Ø22]	80~100 Vial/min	200 Vial/min	300 Vial/min	400 Vial/min
Number of Sealing Head		1 PC	8 PCS	12 PCS	16 PCS
Electricity Consumption	Standard	3P, 220/380V, 50/60Hz			
	Installed Power	2kW	2kW	4kW	4kW
COMPRESSED AIR	Pressure	5Kg/㎠			
	Consumption	14ℓ/min			
Control System		PLC & Touch Screen			
Closure type		Aluminum Cap			
Container movement		Continuous rotary star wheel			
Container travel		Left-Right			
Dimension		(L)1,100mm x (W)920mm x (H)1,800mm	(L)2,195mm x (W)1,210mm x (H)2,000mm	(L)2,240(mm) x (W)1,325mm x (H)2,000mm	(L)2,260(mm) x (W)1,425mm x (H)2,000mm
Weight		1,800kg	2,000kg	2,200kg	2,400kg

Eye Drops Filling Machine

DEF series

Eye Drops Line System

Main Product Features

- Continuous filling method of MONOBLOCK type
- Wide range of filling and accurate filling
- In-cap stoppering and out-cap capping by vacuum are possible
- Exchange of change parts is easy (no special tools required)
- Servo flow control system provides accurate filling amount
- All processes are detected by the interlock device
- Proven system that ensures accurate alignment of round and square bottles and does not fall over
- Touch screen HMI system for user convenience (PC-based Touch applied)

01 Filling

02 Inner Cap Stoppering

03 Screw Cap Sealing

Specifications

DESCRIPTION		MODEL DEF-2000
Machine Type		Monoblock Type
Out Capacity	5ml [Ø20] PE Bottle	150~200 ea/min
Filling Method		Servo Control
Rotary Slide Dosing Pump		6 PCS
Filling Nozzle		6 PCS
Electricity Consumption	Standard Voltage	220/380V, 50/60Hz
	Installed Power	10kW
COMPRESSED AIR	Pressure	5Kg/㎠
	Consumption	14ℓ/min
Drive Speed Control		Inverter Control
Electric Control System		PLC & Touch Screen
Dimension		(L)2,800 X (W)1,750 X (H)2,000 mm
Weight		2,500kg

103-38, Yodang-ri, Yanggam-myeon, Hwaseong-si, Gyeonggi-do, Korea
Tel. +82-31-431-4164 Fax. +82-31-431-4167

www.daeyongpt.com