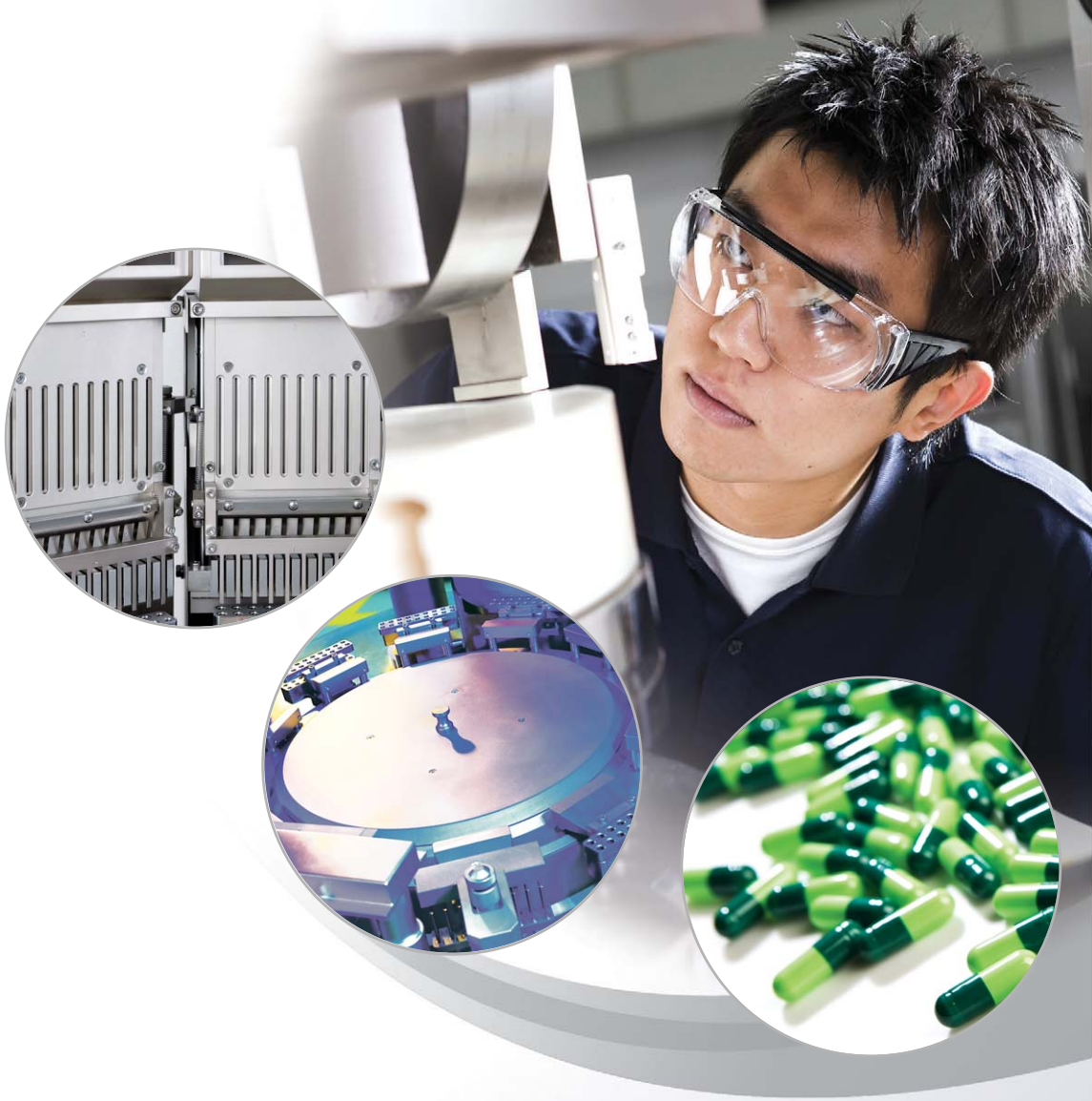
Automatic Capsule Filling Machine

PHARMATECH
SEJONG



Quality Assurance

Sejong Pharmatech has 20 years of accumulated know-how
and its innovative strides for the highest quality and level of technical development
makes the company for pharmaceutical machine industry.
Sejong Pharmatech has advanced technology from abroad for the development
and production of a broad range of pharmaceutical machines to enable Sejong Pharmatech
to serve the global pharmaceutical market.
Engineering experts from all pharmaceutical manufacture industries focus on customer's
needs and satisfaction to supply the best solutions to improve their production.
Also Sejong Pharmatech aims to provide its customers with the best products
on the market and impeccable service.
A combination of both will not only fulfill the customers requirements give them
a supplier they can trust!

Contents

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Automatic Capsule Filling Machine

"Best Solution for Capsule Filling Application"

The biggest advantage of Sejong Pharmatech's Automatic Capsule Filling Machine is that the amount of pharmaceuticals being filled in a capsule is absolutely precise. All of Sejong Pharmatech's Automatic Capsule Filling Machine line compresses the powder after going through 5 compression stages before inserting it into the capsule, and pellets and tablets can be filled by the optional device. Also, by applying an index and cam drive method, we were able to reduce noise and vibration and achieve strong durability, and by strengthening the dust-collecting functionality of the part where the powder is exhausted, we were able to prevent the powder from scattering inside the machine. In addition, the various technologies that have been specially developed and applied enhance the customer's productivity, adding another competitiveness of Sejong Pharmatech.

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STRUCTURE

Design

The newly designed body is round in shape to enhance visibility.
Also, we maximized the field of vision inside the machine; secured space for optimum internal maintenance ; and improved convenience in check-up by installing lighting inside it.

HMI System - Option

All capsule-filling machines in Sejong Pharmatech are operated and controlled via a 15-inch large touch screen mounted on the operation panel. Also, it is designed to ensure all data on product manufacturing are stored, saved and printed. With an alarm function, you can promptly handle any malfunction or problem. As it is designed to fit to the eye level of the user, it makes it easier to operate the equipment. An alarm lamp on the front of the machine keeps users informed of any problems in key components and helps users to promptly respond to any machinery failure or problems.

Turntable with Mechanical Cam Drive System

By adopting an index and cam-drive method, it significantly reduces noise and vibration with excellent abrasion resistance.
Through rotary motion delivered from a cam shaft, it transfers capsules to maintain each part' s function.

STRUCTURE

Capsule Orientation and Separation

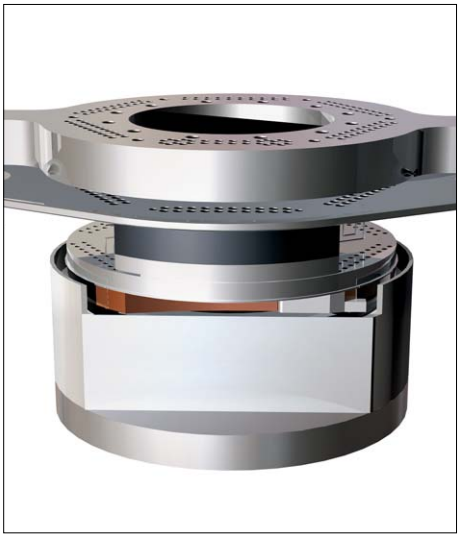
Designed to allow easy disassembly and assembly of change parts.
You can easily check the remaining capsules with the naked eye.
Also it is designed and developed to ensure easy collection.
If there is a problem in capsules provided to the feeder,
i.e. stuck capsules, overlapping, etc., it is designed to solve the problem automatically by disassembled device (Option).

Pellets and Tablet Device

Able to adjust the thickness of pellet blocks so that it allows accurate measuring of drug weight that is inserted into the capsule.
Also, as it is designed in a simple structure for easy disassembly and assembly of the pellet blocks, it will significantly reduce the setting time.

Powder Supply and Tamping

The powder hopper will automatically move up and down,
which can be controlled on the touch screen.
It is designed in a structure that allows operators to stop at any location necessary.
In addition, as it adopts a multi-level compression method,
it can carry out compression molding on filling powder in five stages before inserting them into a capsule.
Thus, it can accurately control drug weight in the capsule.
Reinforced dust-collecting function of the tamping part minimizes the likelihood of powder scattering in the machine.



Reduced Weight Variation in Powder Wiper

This device is designed to reduce weight variation of powder that is actually provided to capsules by blocking any powder leakage from a gap as the powder wiper is completely sealed with a dosing disk.

Strengthened Filling Efficiency of Powder Duct

As it minimizes the gap with a dosing disk, by prolonging the length of powder duct, it raises filling efficiency to significantly improve the collection rate of scattered powder.
Also, with improved filling efficiency, it minimizes powder leaking into the machine during dosing disk rotation.

Faulty Capsule Ejection

We have strengthened a function to accurately discharge, filter and separately store any capsules with a cap and body that are not divided though the up and down movement of ejection pin and air block.

STRUCTURE

Capsule Closing, Discharge, Cleaning

We have reinforced the dust-collecting function on the capsule closing, discharge, and cleaning part to minimize the powder scattering in the machine.

Use of Low Pressure Vacuum Pump

Using a low pressure vacuum pump, it is designed to have a comparatively small air consumption rather than a large intake volume and is able to assure the reliability of vacuum level in low and inconsistent pressure over 4 kilo.
Also, as it is designed to ensure easy filter cleaning and replacement, it is excellent in maintenance.

Maximum Dosing Disk Thickness

Maximum Dosing Disk Thickness									
Capsule Size	#000	#00	#0el	#0	#1	#2	#3	#4	#5
Maximum Dosing Disk Thickness (mm)	25.3	23.8	23.8	21.8	20	17.5	16.5	14.5	10.6

Various Filling & Combination in Capsules

This machine can fill various powder, pellet, tablets into capsules while filling various capsules such as pellet powder capsules, and tablet powder capsules. (Excluding SF-150N)

※ In case of tablet filling, reflected difference result in supply method by raw materials shape and filling quantity.
※ Please discuss with Sejong Pharmatech for before the tablet filling production.

Production capacity and accuracy would be slightly different depending on the material and specification of powder, pellet and tablet.

Powder

Pellets + Powder + Pellets

Powder + Tablets

Pellets + Powder

Pellets + Tablets

Tablets + Tablets + Tablets

Touch Screen

Safety Message Function

Reporting Function

Operation

Operation screen enables you to configure all information on machine operation including RPM, production amount, the running of other option items, etc.

Dejamming

This screen serves to automatically solve the problem of failing to provide capsules to the feeder.

Production Management Function

This screen displays all necessary parameters and system environments for production and allows you to set up the name, manufacturer' s serial number and mode for products and to input, save and print out a manufacturing recipe for a product.

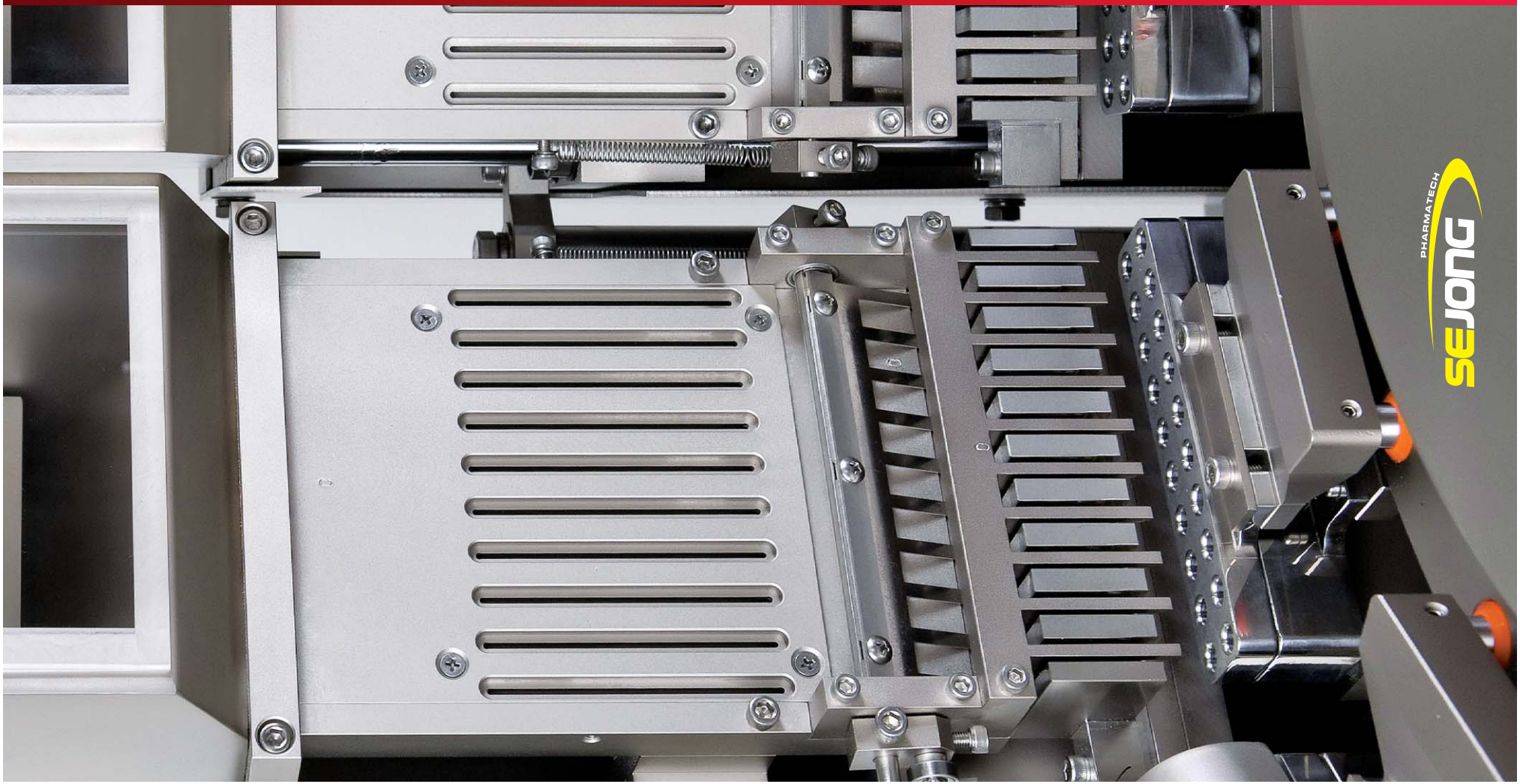
Safety Message Function

This screen allows users to check a particular part if the alarm rang when a problem occurred during filling process. It also gives solutions for the problems.

Reporting Function

Function to enable users to check various production data by different products, manufacture's serial numbers, users, etc.

Automatic Capsule Filling Machine



SF-8N/25N/40N

Product Specification SF-8N/25N/40N

Description		Model		
		SF-8N	SF-25N	SF-40N
Number of Hole (Hole)		1	3	5
Max. Output capsule (Caps/Hour) : Powder		8,000	25,000	40,000
Revolution of unit (unit/min)		140		
Range of capsule size		#00~#4 / #000, #5 (Option)		
Main motor power (kW)		0.75		
Dimension (mm)		D 1,590 (2,600) X W 1,190 (2,720) X H 2,130 (2,250)		
Hopper Volume (ℓ)	Capsule Hopper	27		
	Powder Hopper	30		
Weight (kg)		1,300		
Power Supply Data		220 / 380 / 400 / 415 / 440 V, 50 / 60Hz, 3Phase		
Compressed air		6kg / ㎠ , 600L / min		
Noise Level		UNDER 80dB		

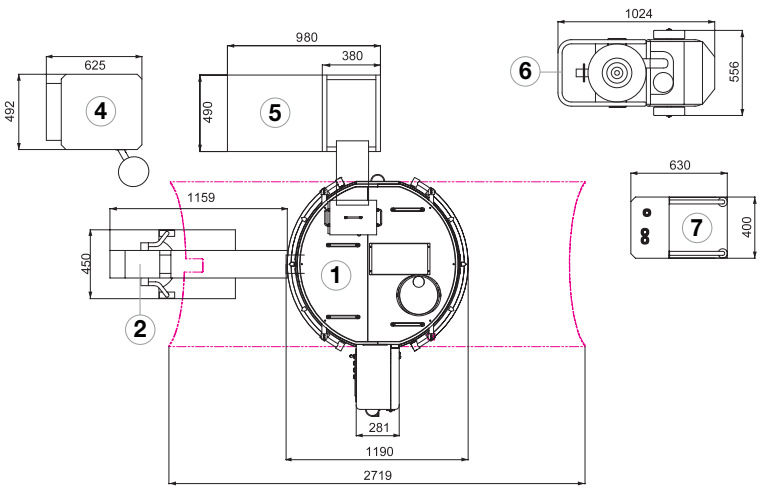
※ Production capacity and accuracy would be slightly different depending on the material and specification of powder, pellet and tablet.

※ The above specification is subject to change without prior notice for the technical development.

Dimensions with Layout

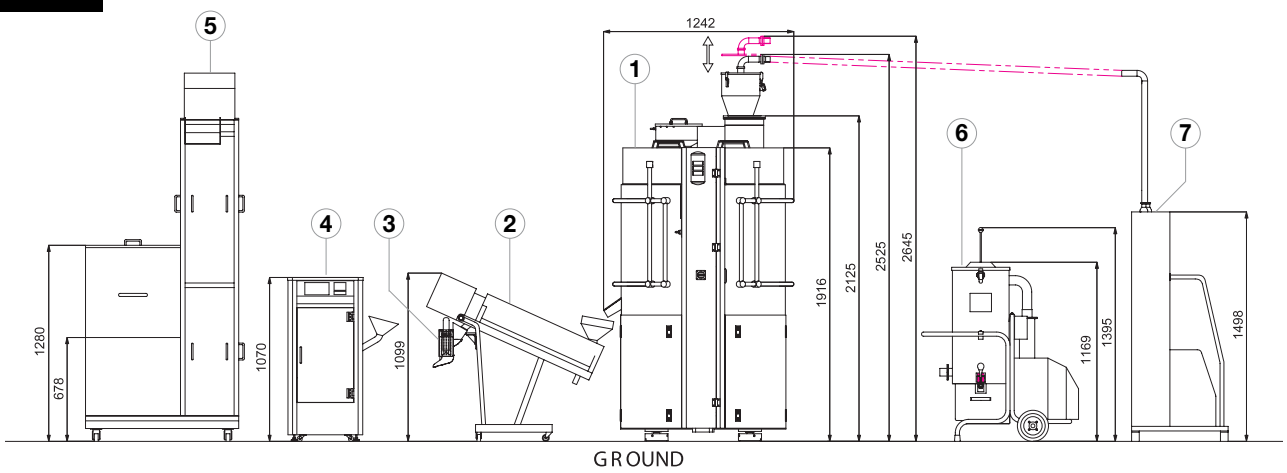
Standard Type SF-8N/25N/40N

Top View

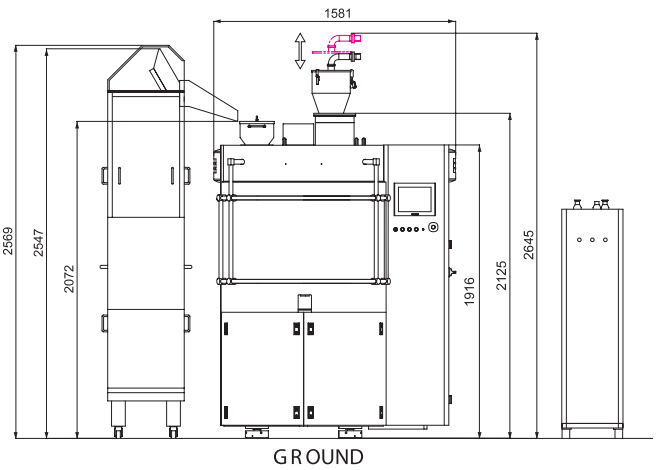


① Main Machine
② Capsule Polishing Machine (Option)
③ Capsule Sorter (Option)
④ Auto Capsule Sampling Machine (Option)
⑤ Auto Capsule Loading Machine (Option)
⑥ Dust Collector (Option)
⑦ Auto Powder Loading Machine (Option)

Front View



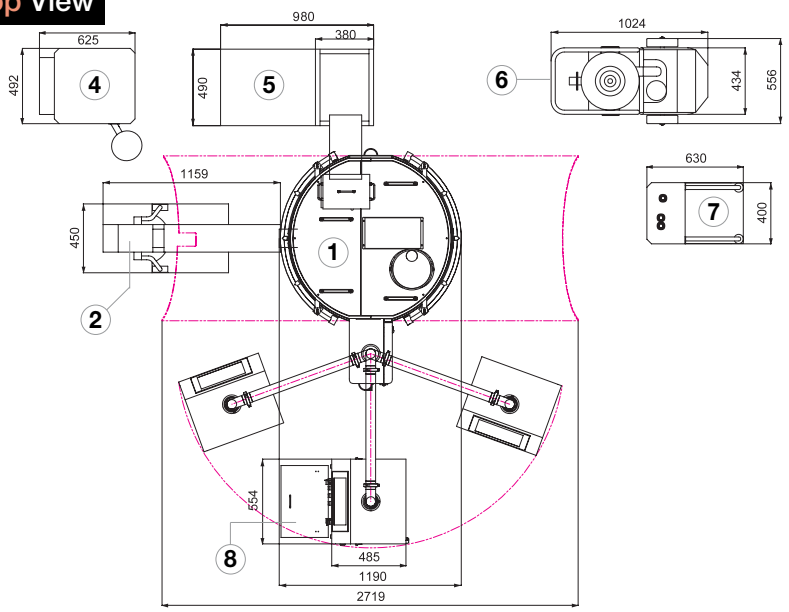
Side View



Dimensions with Layout

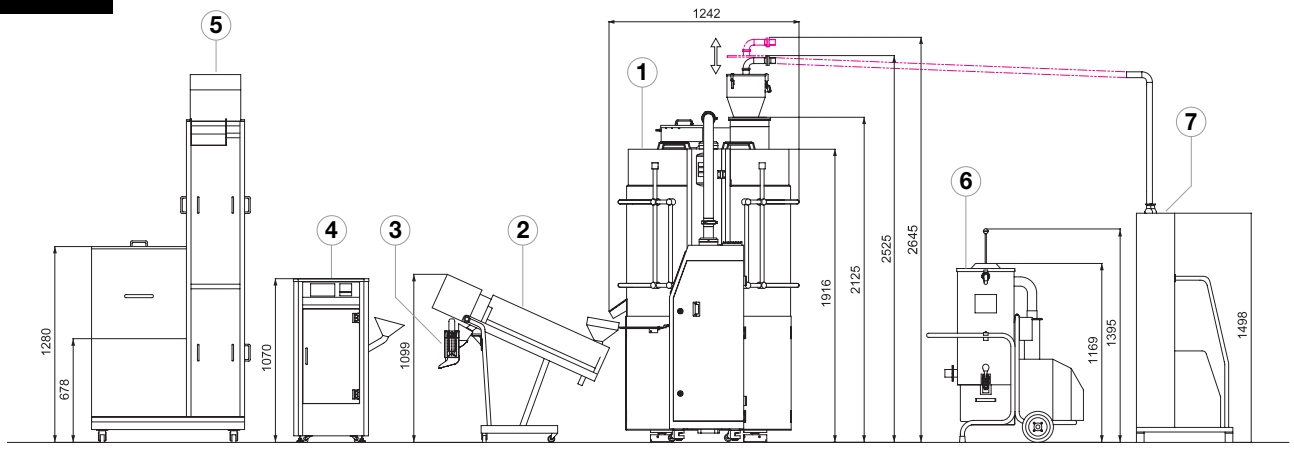
HMI Type SF-8N/25N/40N

Top View

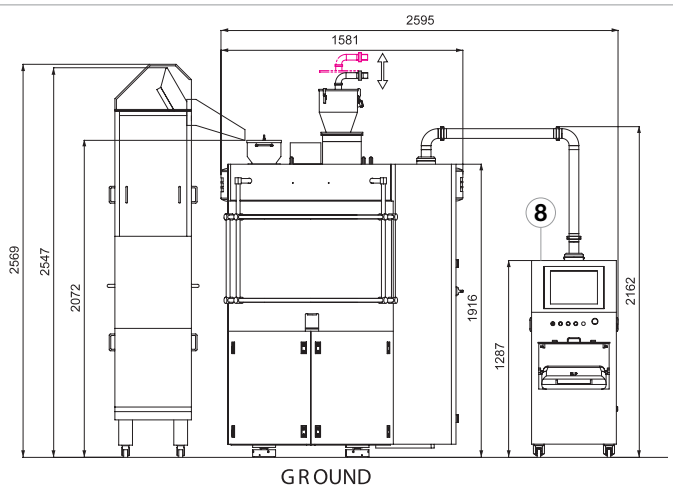


1. Main Machine
2. Capsule Polishing Machine (Option)
3. Capsule Sorter (Option)
4. Auto Capsule Sampling Machine (Option)
5. Auto Capsule Loading Machine (Option)
6. Dust Collector (Option)
7. Auto Powder Loading Machine (Option)
8. Operation Box (HMI)

Front View



Side View



SF-80N/100N

Product Specification SF-80N/100N

Description		Model	
		SF-80N	SF-100N
Number of Hole (Hole)		10	14
Max. Output capsule (Caps/Hour) : Powder		80,000	100,000
Revolution of unit (unit/min)		135	
Range of capsule size		#00~#4 / #000, #5 (Option)	
Main motor power (kW)		2.2	
Dimension (mm)		D 1,710 (2,810) X W 1,480 (2,870) X H 2,220 (2,340)	
Hopper Volume (ℓ)	Capsule Hopper	44	
	Powder Hopper	30	
Weight (kg)		2,000	
Power Supply Data		220 / 380 / 400 / 415 / 440 V, 50 / 60Hz, 3Phase	
Compressed air		6kg / ㎠ , 800L / min	
Noise Level		UNDER 80dB	

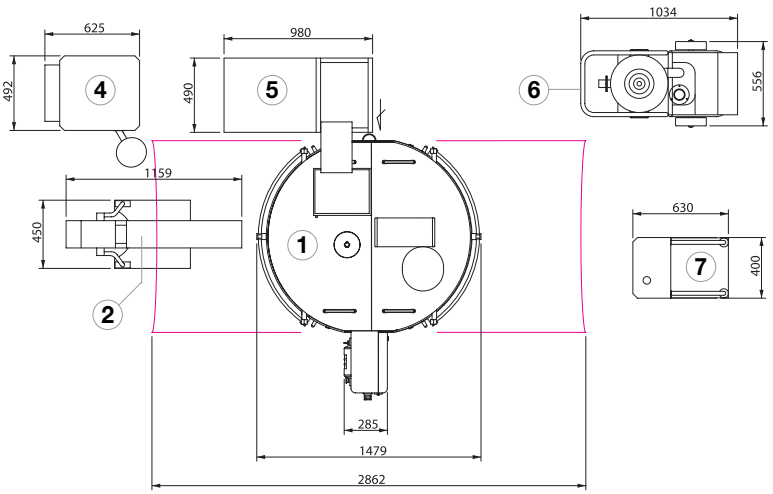
※ Production capacity and accuracy would be slightly different depending on the material and specification of powder, pellet and tablet.

※ The above specification is subject to change without prior notice for the technical development.

Dimensions with Layout

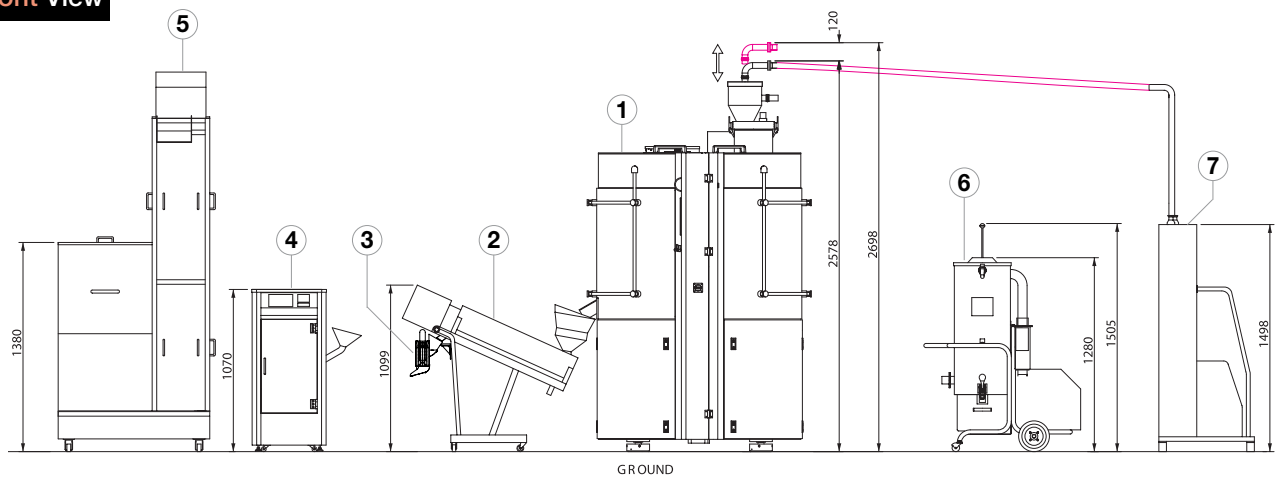
Standard Type SF-80N/100N

Top View

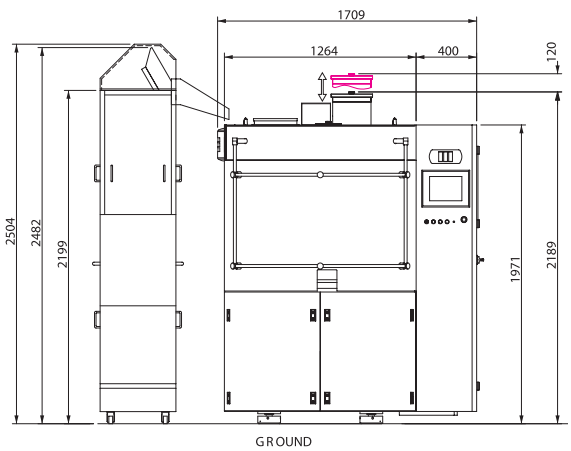


① Main Machine
② Capsule Polishing Machine (Option)
③ Capsule Sorter (Option)
④ Auto Capsule Sampling Machine (Option)
⑤ Auto Capsule Loading Machine (Option)
⑥ Dust Collector (Option)
⑦ Auto Powder Loading Machine (Option)

Front View

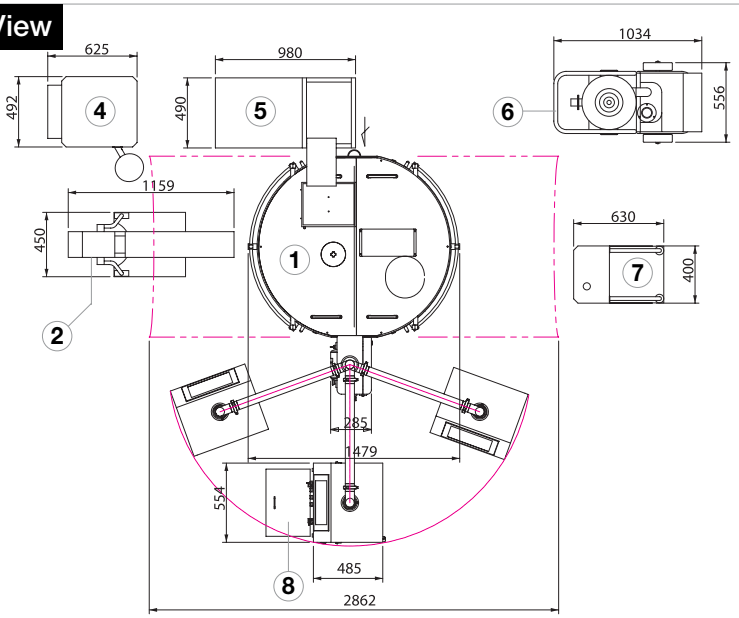


Side View



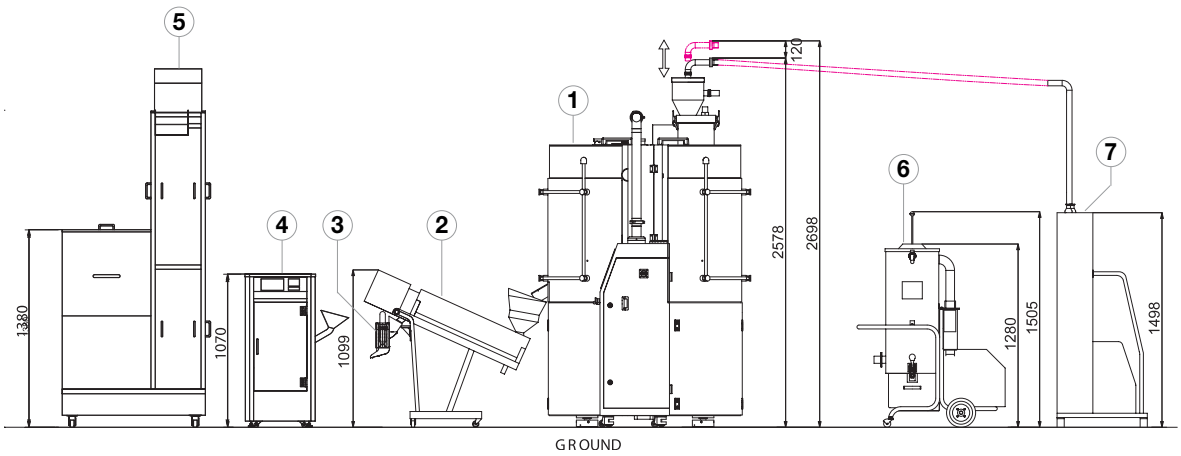
HMI Type SF-80N/100N

Top View

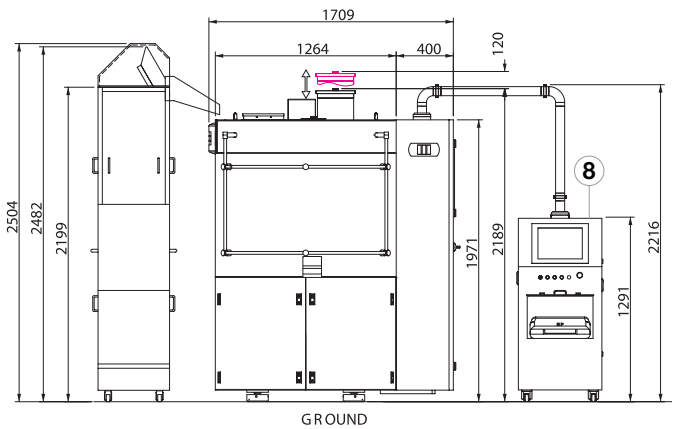


① Main Machine
② Capsule Polishing Machine (Option)
③ Capsule Sorter (Option)
④ Auto Capsule Sampling Machine (Option)
⑤ Auto Capsule Loading Machine (Option)
⑥ Dust Collector (Option)
⑦ Auto Powder Loading Machine (Option)
⑧ Operation Box (HMI)

Front View



Side View



SF-120N/135N/150N

Product Specification SF-120N/135N/150N

Description		Model		
		SF-120N	SF-135N	SF-150N
Number of Hole (Hole)		16	18	20
Max. Output capsule (Caps/Hour) : Powder		120,000	135,000	150,000
Revolution of unit (unit/min)		125		
Range of capsule size		#00~#4 / #000, #5 (Option)		
Main motor power (kW)		4		
Dimension (mm)		D 2,050 (3,040) X W 1,850 (2,650) X H 2,380 (2,500)		
Hopper Volume (ℓ)	Capsule Hopper	55		
	Powder Hopper	30		
Weight (kg)		2,500		
Power Supply Data		220 / 380 / 400 / 415 / 440 V, 50 / 60Hz, 3Phase		
Compressed air		6kg / ㎠ , 1,000L / min		
Noise Level		UNDER 80dB		

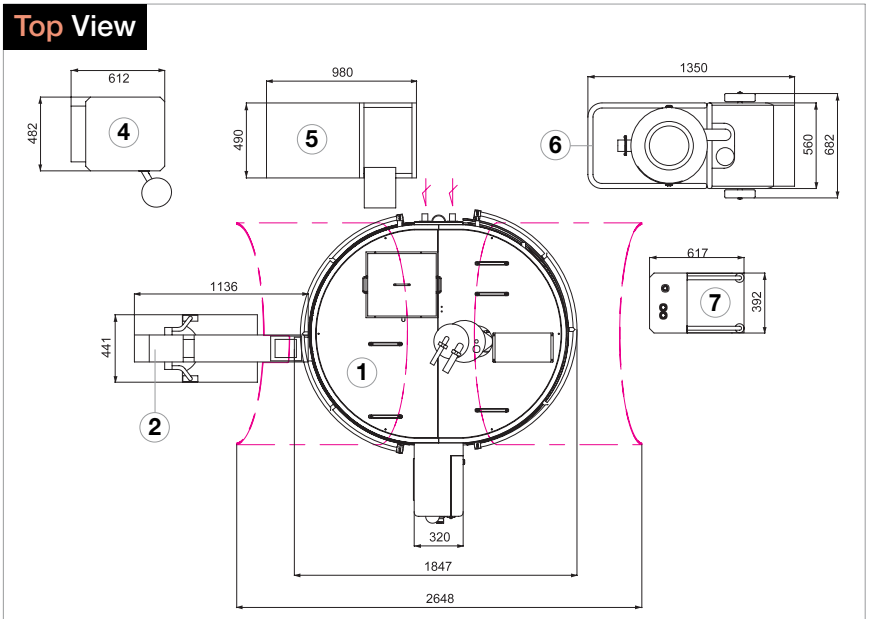
※ Production capacity and accuracy would be slightly different depending on the material and specification of powder, pellet and tablet.

※ The above specification is subject to change without prior notice for the technical development.

Dimensions with Layout

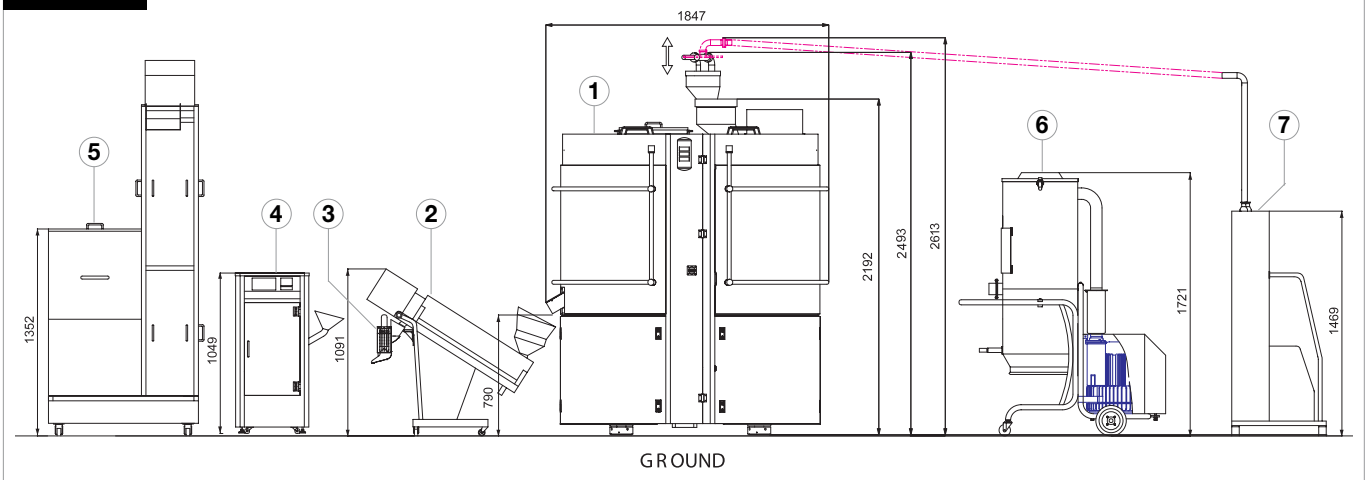
Standard Type SF-120N/135N/150N

Top View

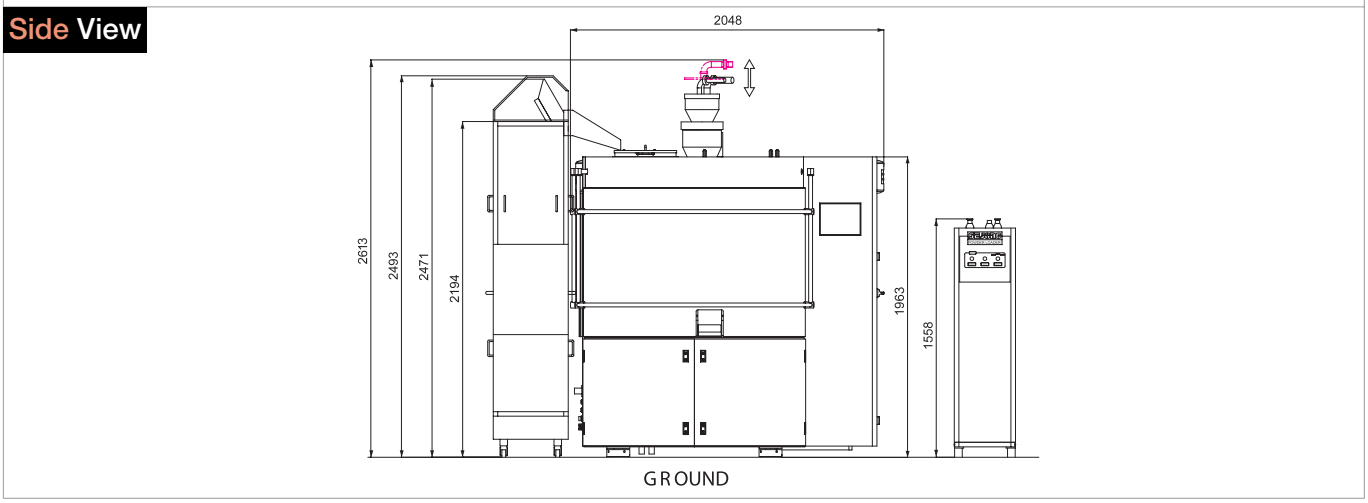


① Main Machine
② Capsule Polishing Machine (Option)
③ Capsule Sorter (Option)
④ Auto Capsule Sampling Machine (Option)
⑤ Auto Capsule Loading Machine (Option)
⑥ Dust Collector (Option)
⑦ Auto Powder Loading Machine (Option)

Front View



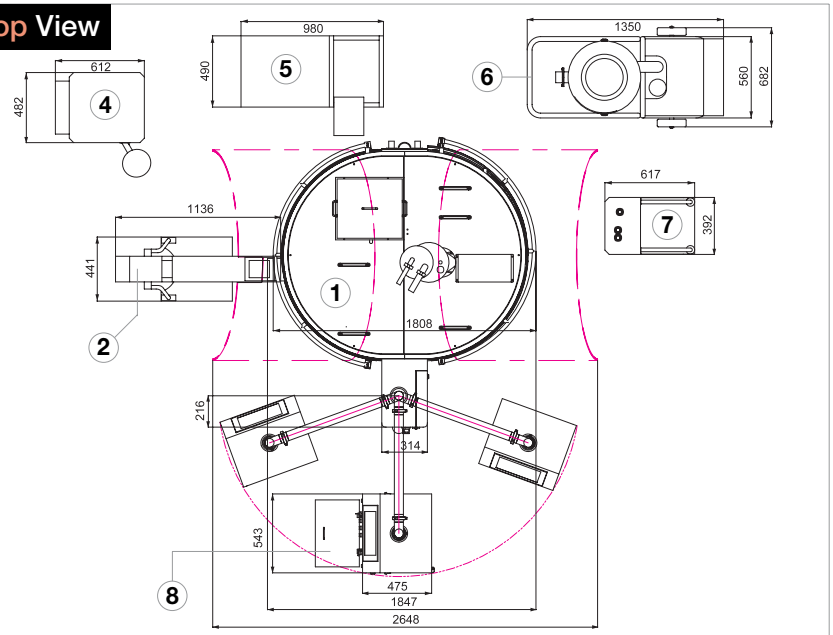
Side View



Dimensions with Layout

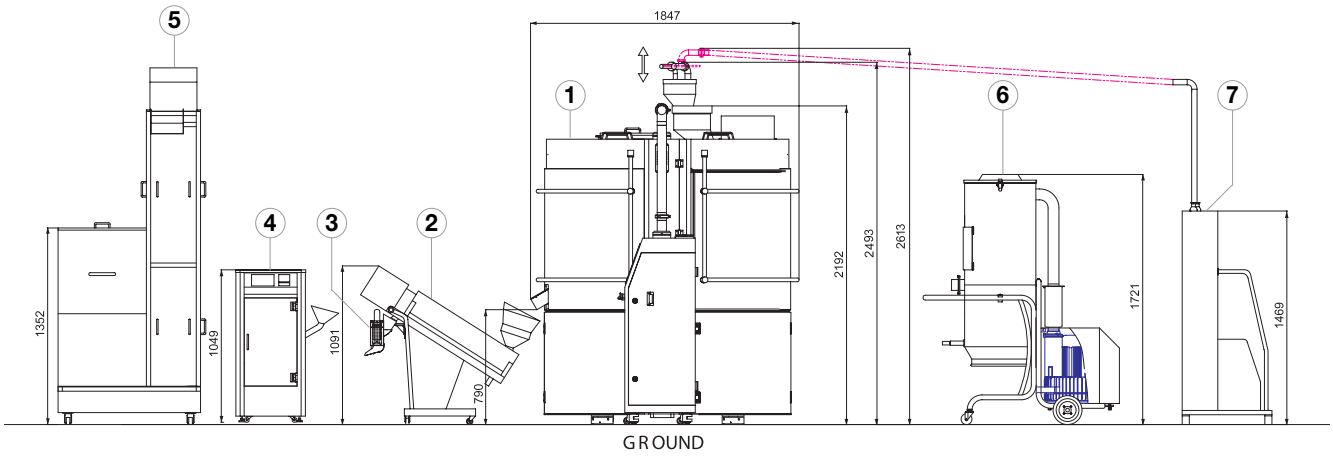
HMI Type SF-120N/135N/150N

Top View

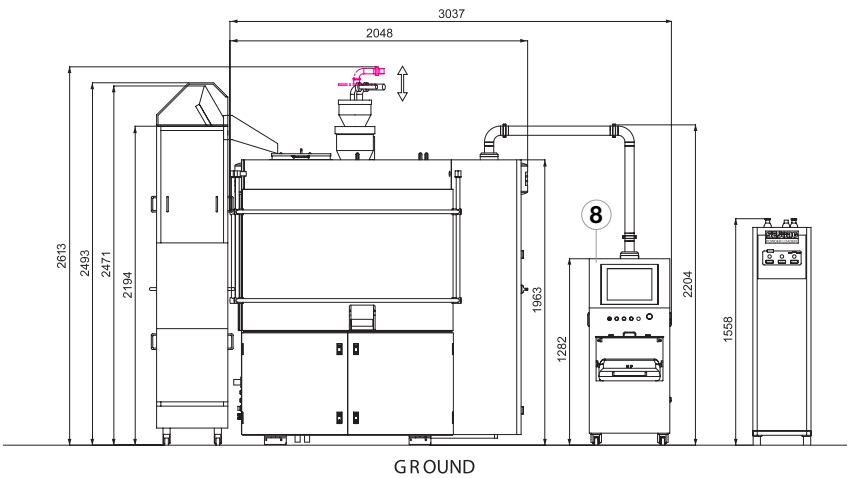


① Main Machine
② Capsule Polishing Machine (Option)
③ Capsule Sorter (Option)
④ Auto Capsule Sampling Machine (Option)
⑤ Auto Capsule Loading Machine (Option)
⑥ Dust Collector (Option)
⑦ Auto Powder Loading Machine (Option)
⑧ Operation Box (HMI)

Front View



Side View



Option Items

Auto Capsule Polishing Machine & Capsule Sorter

This machine removes dust on the filled and discharged capsules from the main body then gives them a polishing treatment. It is easy to clean, disassemble and assemble as a brush cover dismounting from a brush, shaft or support is made simple.
Capsule sorter is a device to separate capsules that are not filled with powder used by vacuum pressure in the main machine.
The assorted capsules will be stored in a separate container and the sorter is structured in a manner that allows easy disassembly and assembly.

Description	DCP-480
Max.Output Capsule (Caps/Hour)	480,000
Main Motor Power (kW)	0.18
Operating Voltage	220 / 380 / 400 / 415 / 440 V, 50 / 60Hz, 3Phase
Dimension (mm)	W1,160 X D450 X H1,500
Wight (kg)	60

Auto Capsule Loading System

A system that automatically provides capsules to a hopper by loading machine operated by a level sensor attached to the capsule hopper on the main body

Description	SCL-100
Max.Output Capsule (Caps/Hour) (#0)	200,000
Capsule Hopper Capacity (ea)	150,000
Operating Voltage	220V, 50 / 60Hz
Dimension (mm)	W1,000 X D550 X H2,500
Weight (kg)	150
Compressed air	6kg / ㎠

Auto Powder Loading System

This equipment is designed on a sensor-operated vacuum and automatically delivers powder to a hopper inside the machine. As it uses a low-pressure vacuum ejector, it keeps excellent performance in low air pressure of 3 to 4 kilos.
You can choose between automatic mode by sensor and manual mode.
It is easy to mount and dismount and to clean and manage.

Description	SPL-100
Operating Voltage	220V, 50 / 60Hz
Control Source	220V
Dimension (mm)	W400 X D630 X H2,500
Weight (kg)	150
Compressed air	6kg / ㎠

Option Items

Auto Capsule Separator

Filled capsules will line up on raceway by a feeder that opens and closes with the motor operation. The side pusher serves to push capsules out of the raceway as a side pusher approaches. In this process, the cap and body of a capsule will be divided by a cutter mounted on the raceway. Once divided, the capsule will take a free fall to be divided into capsule and powder then collected separately.

- Able to separate and retrieve capsule and powder
- Simply designed structure ensures relatively cheaper investment than its performance.
- Designed in dual separation cover structure for easy maintenance
- Internal compartment to block between machine room section and front part components section.

Description	CS-30
Max.Output Capsule (Caps/Hour)	25,000
Revolution of unit (unit/min)	84
Range of capsule size	#00~#4 / #000, #5(Option)
Operating Voltage	220 / 380 / 400 / 415 / 440 V, 50 / 60Hz, 3 Phase
Main Motor Power (kW)	0.15
Dimension (mm)	W576 X D688 X H1,572
Wight (kg)	60

Auto Capsule Sampling Machine

This automatic device helps you to check the weight of filled capsules in the main body for a certain number and time. It is easy to operate as it is controlled by a touch screen. The weight value of capsules will display on the screen and be printed on a real-time basis. Furthermore, you can set not only the weight value but also the amount of powder filled into a capsule to print out individual deviation, the average value and standard deviation with a Thermal Printer.

Description	SSM
Operating Voltage	220V, 50 / 60Hz
Control Source	220V
Dimension (mm)	W 500 X D 625 X H 1.070
Linear Drive Unit & Controller	CS-01 & MFC-3
Weight (kg)	100
Compressed air	4kg / ㎠

Dust Collector

Connected to the main body, it enables work in a pleasant environment by powerfully inhaling dust inside the machine.
Also by connecting it to the deduster, it inhales dust coming from the capsules.

Description		Model				
		OVC-5B	OVC-15B	OVC-22B	OVC-37B	OVC-55B
Motor Rating (hp) (kW)		1 (0.75)	2 (1.5)	3 (2.2)	5 (3.7)	7.5 (5.5)
Max Air Flow (CMM)	60Hz	2.1	4.4	5.2	6.5	6.6
	50Hz	1.9	3.5	4.1	5.5	5.6
Max Vacuum (mmAq ±10%)	60Hz	1,700	2,050	2,200	2,800	3,200
	50Hz	1,300	1,480	1,632	2,000	2,500
Filter Size	Ø / □	Ø100	Ø100	Ø100	□ 300	□ 300
	Length	450	450	600	400	450
	ea	6	6	6	9	9
Filtering Area (㎡)		0.84	0.95	1.1	2.3	2.6
Dust Box Capacity (Lr)		20	20	20	40	55
Dimension (mm)	W	420	560	560	700	700
	D	1,050	1,050	1,050	1,300	1,400
	H	1,100	1,200	1,300	1,300	1,400
Weight (kg)		80	83	98	160	172

Capsule Weight Checker

"Best Solution for High Accuracy"

The newly introduced capsule weight checker by Sejong Pharmatech allows easy equipment checks and maintenance by minimizing the size of the equipment.
As it adopts a servo motor operation method, it exerts better and more accurate operation and control. It is also designed to maintain consistent and accurate functions with a system that provides and discharges capsules by switching servo motors rotation power through a cam.
In addition, it is marked by easy-to-remove change parts and a "weight measurement" function that can accurately measure weight even at high RPM of 100 RPM to distinguish between normal and faulty items to discharge or to store.
All data in all capsule weight checkers by Sejong Pharmatech areautomatically saved by HMI system while enabling you to check all necessary data from a touch screen on the operation panel.

PHARMATECH SEJONG

STRUCTURE

Smaller Products

Smaller and lighter products allow you to easily check whether or not capsules are delivered and produced without any problem while enhancing the equipment visibility
In accordance with GMP standards, the capsule feeding part is made of stainless steel. Moreover as it is easy to check all production data with naked eyes, it helps you to manage and control production process more efficiently.

HMI System

With an alarm lamp amounted on the front part of the machine,
you are kept informed of any troubles on key components and are ableto quickly respond to machine failure or problems.
The weight history screen displays both zero point calibration of the load cell and the weights of currently being measured capsules for each line.
The monitoring screen shows the number of currently measured capsules per line, and at the same time, it displays the data in graphs.
It also allows you to configure the basic range of weight measurement.
Operation Screen helps you to configure all information on machine operation while product screen show all configured data on machine operation.

Capsule Moving & Supply Part

Operating by servo motor, it enables accurate operation and control.
As it directly delivers servos rotation movement to cam, it is possible to carry out consistent and accurate capsule supply and discharge.
It is possible to reduce the required time for replacement to 5 minutes with a structure that is easy to disassemble and assemble through pins in the change part.
You can easily check and collect the remaining capsules in the capsule hopper.

Capsule Weight Check & Discharge Part

Load cell installed inside the main body is designed to accurately measure the weight of capsules delivered through a race way
Based on the measured data, it will distinguish between normal and faulty capsules and deliver normal ones to the discharge chute while separately ejecting faulty capsules based on cylinder force.

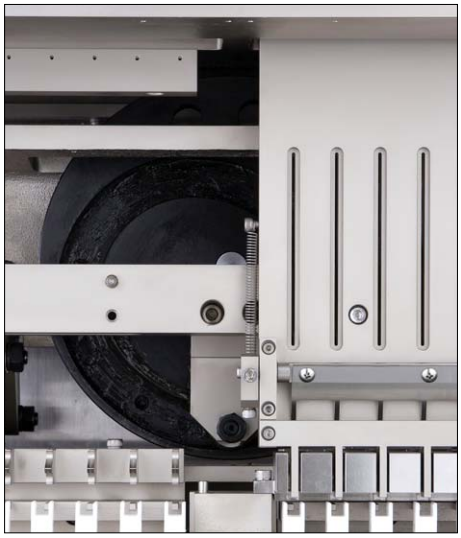
Load Cell Part

As the main machine and load cell base are separated, the structure does not deliver any vibration to load cell during machine operation. Thus, there is no external influence on weight measuring so that it is possible to secure accurate data.
As the load cell is separately organized by each line, it is easy to disassemble and assemble.
Also, it is designed to facilitate cleaning and management of the part as well as replacement and repair in case of any problems in load cell.

Faulty Capsule Box

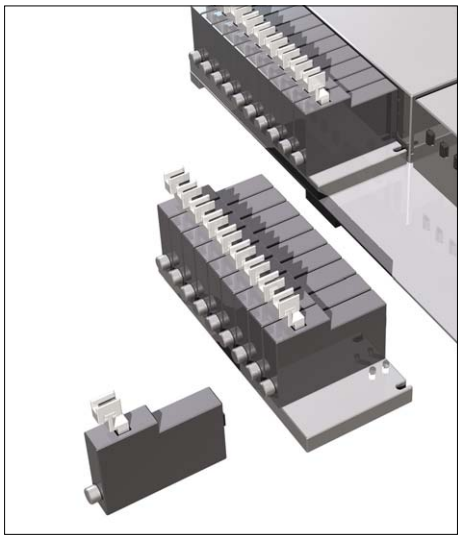
While normal capsules within the range configured by users are discharged, others that fail to fit into the range will be separately stored by a cylinder work in a storage tank.
The new capsule filling machine has a larger monitoring window than others to easily see the capsules inside the tank.

STRUCTURE



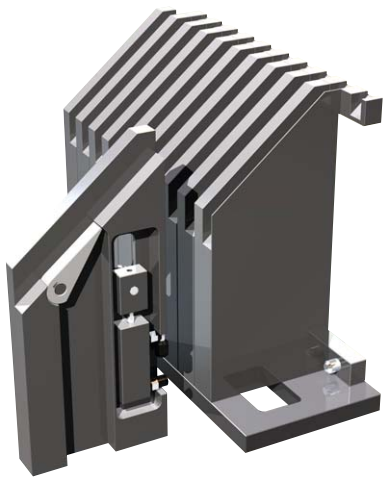
Capsule Supply Support By Blower

When capsules are suspended and not delivered to a feeder, a blower will push the capsules caught at the upper part of the feeder.
Blower will start working on each line when a load cell runs more than three times with no capsule weight measured.



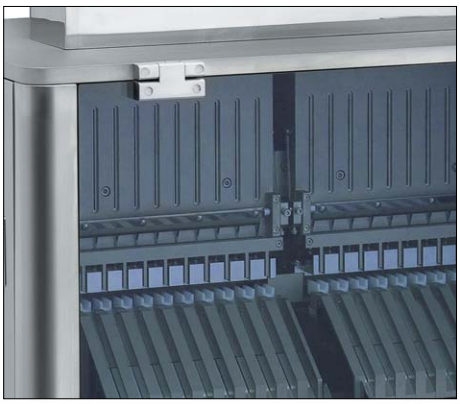
Load Cell Assembly Separation

Load cell assembly is designed to ensure easy assembly, disassembly, and cleaning, and to have discrete main and sub assemblies to beseparated.



Device of Capsule Discharge Block

Capsule discharge block is made to ensure easy assembly, disassembly, and cleaning, and to have discrete main and sub assemblies to be separated.

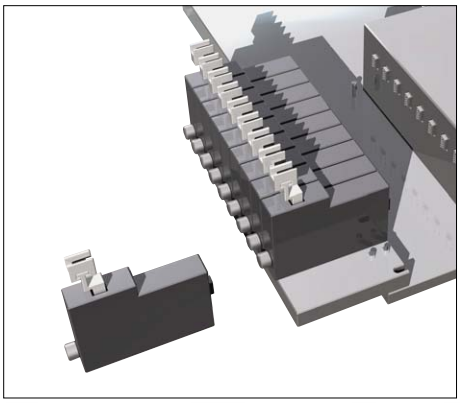


Acryl Door Separation

Acryl door is structured to be separable after opening and closing at both sides.
Thus, it is easier to assemble as it eliminates any external interruption by doors during component disassembly, assembly and maintenance.

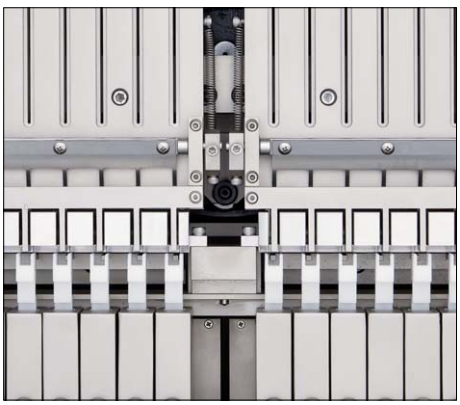
Larger Capsule Hopper Volume

Larger capsule hopper volume has significantly increased the storage volume.
In case of SWC-150, one capsule, based on size no.1, can store more than 100,000 capsules.
Widened monitoring window enables you to easily see the capsule sinside the tank.



Use of Pin for Assembly Parts

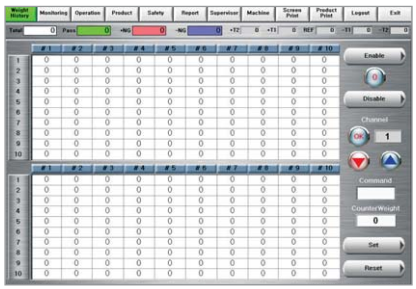
All assembly parts to be put together have interlocking pins that are used in disassembly and assembly at the correct locations.



Standardization of bolts and minimized number of protruded bolts

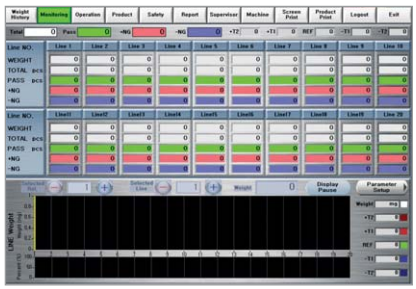
By standardizing the size of bolts for parts, it reduces the necessary use of tools to improve work efficiency regarding disassembly and assembly.
In addition, by limiting the number of bolts protruding facilitates machine cleaning and raises the level of safety.

Touch Screen



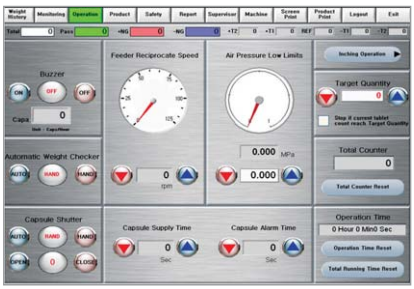
Weight History

The weight history screen displays both zero point calibration of the load cell and the weights of currently being measured capsules for each line.



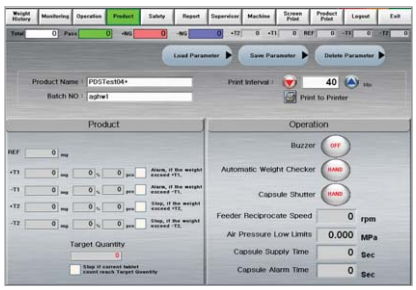
Monitoring

The monitoring screen shows the number of currently measured capsules per line, and at the same time, it displays the data in graphs.
It also allows you to configure the basic range of weight measurement.



Operation

Operation screen enables you to configure all information on machine operation including RPM, production amount, the running of other option items, etc.



Production Management Function

This screen displays all necessary parameters and system environments for production and allows you to set up the name, manufacturer's serial number and mode for products and to input, save and print out a manufacturing recipe for a product.

Safety Message Function

This screen allows users to check a particular part if the alarm rang when a problem occurred during checking process.
It also gives solutions for the problems.

Reporting Function

Function to enable users to check various production data by different products, manufacture's serial numbers, users, etc.

SWC-75/150

Product Specification SWC-75/150

Description	Model	
	SWC-75	SWC-150
Weight Range	0 to 1,800mg	
Available Capsule Size	#000, #00, #0el, #0, #1, #2, #3, #4, #5	
Accuracy	±2mg	
Max. Output (Caps/Hour)	60,000	120,000
Indicating Range (mg)	0 to 1,800 (Digital display)	
Reject Pattern	2way (PASS and FAULTY)	
Alarm Function	When there is no capsule in the hopper, the drive motor will stop the operationand the buzzer will sound an alarm. In addition, if a weight cell has a trouble or a capsule is jammed in a chute, only that lane will be stopped to supply capsules and no measurement until the correct action is done.	
Ambient Temperature (℃)	15°...to 25°...(Operating temperature change within 1deg/1Hr.)	
Required Compressed Air Source	6kg/㎠, 25L/min	6kg/㎠, 50L/min
Standard Voltage	220 / 380 / 400 / 415 / 440 V, 50 / 60Hz, 3Ph	
Dimension (mm)	W:550 , D:750 , H:1,575	W:860 , D:750 , H:1,575
Weight (kg)	450	600

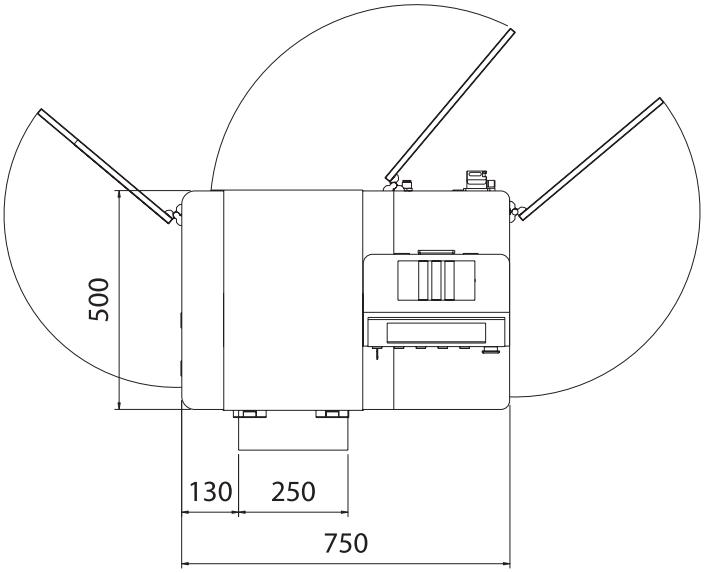
※Outcome production yield also could be different based on the materials of the power, pellet and tablet which are filled into the capsule.

※The above specification is the subject to change without prior notice for the technical development.

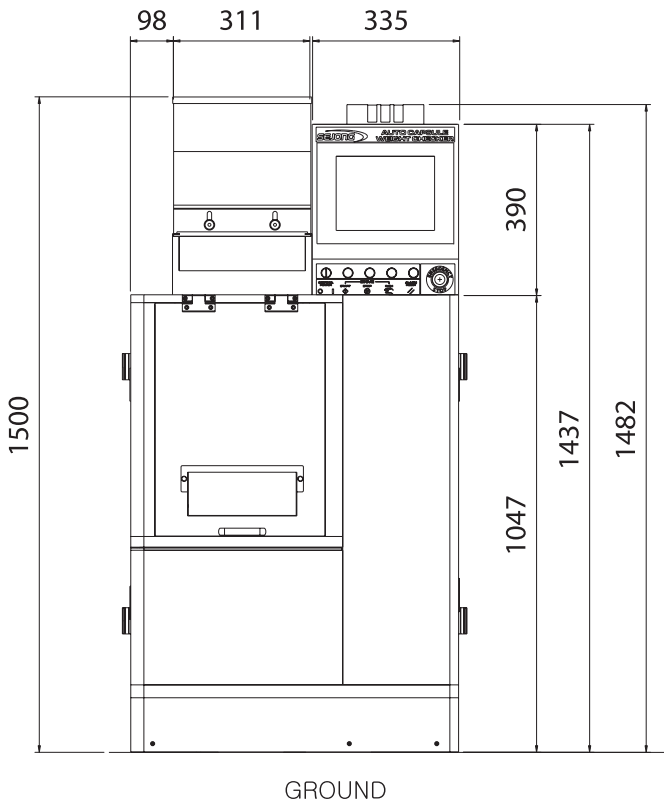
Dimensions with Layout

Standard(HMI) Type SWC-75

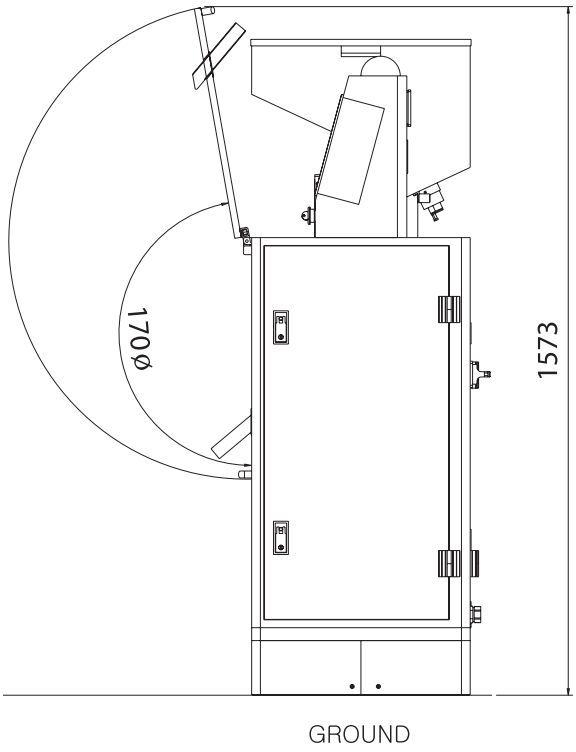
Top View



Front View

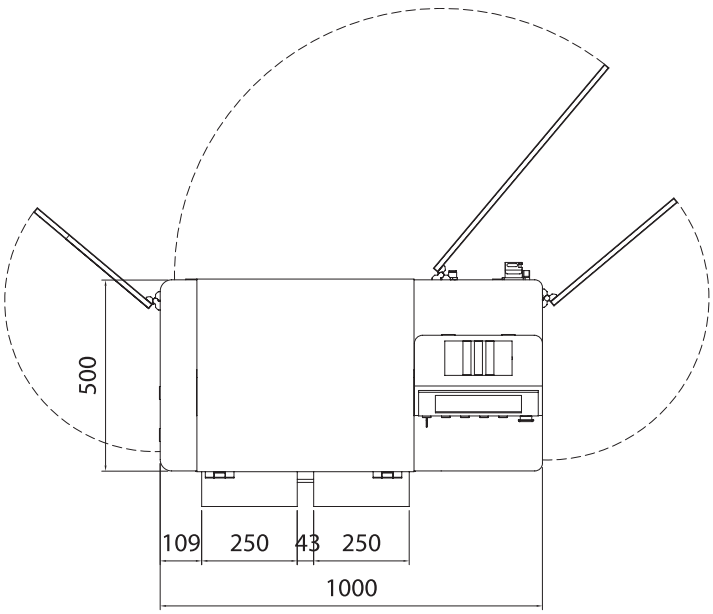


Side View

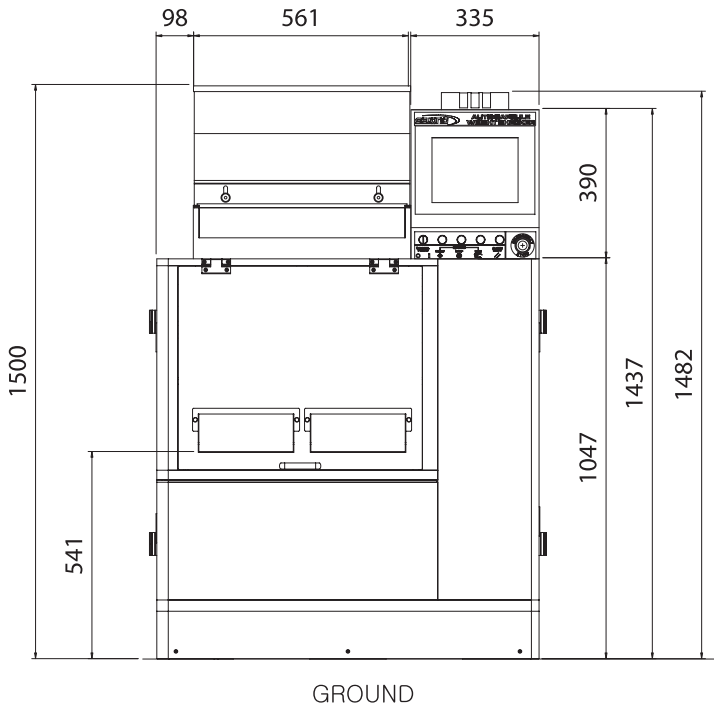


Standard(HMI) Type SWC-150

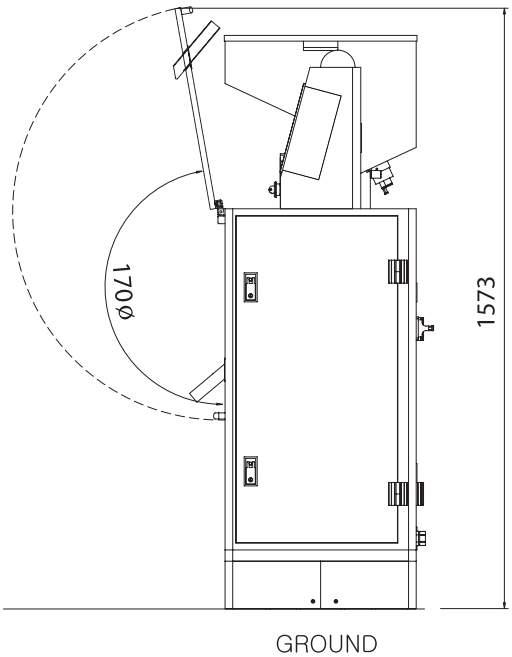
Top View



Front View



Side View



※ The specifications are subject to change without notice

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